



CENTRAL SPINE

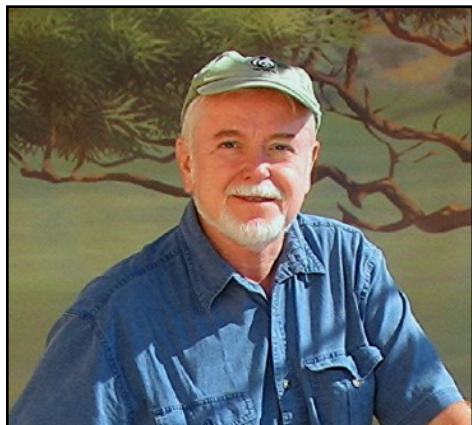
September 2026



Sabino Canyon, Arizona by Bella Nugent.

REMARKABLE SUCCULENTS OF SOUTH AFRICA By Doug Dawson

Join us for the September 27 meeting held in Dorrance Hall. The meeting begins at 2 p.m., but come early to socialize and bid on plants.



During the last two decades, I have made yearly plant exploration trips to South Africa, spending approximately three weeks in the wilderness each time documenting and photographing succulents. I've seen hundreds of species. This presentation will focus on some of my favorites. Many of these plants are seldom found in American collections or are exotic, curious or unusual. You may wish to add some of these to your collection.

Doug (left) is a retired math professor who travels extensively to botanical areas of the world where succulents grow. His travels include Mexico, Chile, Argentina, Yemen, Socotra, Africa, and his own state of Arizona. He has organized over 23 botanical exploratory trips to South Africa and Namibia, each time camping on local farms and public areas for three weeks and exploring the surrounding mountains and hills. His last trip to South Africa was April/May, 2026.



Left, Doug in the field. Above *Sarcocaulon herrei* in the field.

Doug has a passionate interest in growing cacti and succulents from seed. Other interests include photography of succulents. He has delivered many workshops and
(continued)



talks in Arizona and at Cactus and Succulent Society of America conferences.

Doug's private plant collection emphasizes seedlings, *Lithops*, other *Mesembs*, Northern Cape *Crassula*, and Arizona natives. Doug has been an active member of CACSS since 1989 and is also a member of CSSA and the Tucson club.

Left, *Crassula pseudohemisphaerica* in the wild.

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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

AWARD-WINNING PLANT: *Ariocarpus fissuratus* By Brant Mackley

AWARD: Best *Ariocarpus* of the 2026 Annual Show

GROWER: Brant Mackley. The cactus was from seed grown by David Salman in New Mexico. David was known for starting Santa Fe Greenhouses in the 1980's. (There is a tribute garden to David Salman at the Santa Fe Botanical Garden that is worth visiting when in New Mexico.) The plant went to another succulent collection in town around 2020. I've been growing it since 2025.



PLANT NAME: *Ariocarpus fissuratus*

PURCHASED: I purchased the plant in early spring of 2025 from the Santa Fe collector who bought it from David Salman.

POT: The pot was made by Kurt Oviedo of Colibri Ceramics. Kurt's work can be best viewed on Instagram at: [colibri.ceramicz](https://www.instagram.com/colibri.ceramicz).

FERTILIZER: I have only fertilized the plant twice, once in late spring and again in September of last year. I used a combination of General Hydroponics Floral Micro 5-0-1, General Hydroponics Floral Bloom 0-5-4 and potassium sulfate.

POTTING MEDIUM: The potting medium I use with my *Ariocarpus* is mineral heavy. I use a combination of 1/3 Stone Eater's V.I from Cactus Store Studio, 1/3 pumice, 1/6 Poot's Cactus Soil, and 1/6 Uni-Gro Cactus Mix.

SUN EXPOSURE: Since my ownership, the plant has been grown indoors located at my art gallery front display window. The window is south facing and only gets direct sun part of the day.

WATERING: In the summer, the plant gets watered every two weeks. I slow this down in the early fall, especially if the weather cools. Watering is suspended from late October through mid-January. I then start very light watering monthly through April. In mid-May, the summer watering schedule repeats.

FROST PROTECTION: The window display, in which this cactus lives, has a heater that activates at forty degrees Fahrenheit.

OTHER NEEDS/COMMENTS: With my *Ariocarpus*, I add vinegar to the water to bring the pH to a more acidic level (around 5.5 pH).

ABOUT THOSE SAGUAROS By Kathleen M. McCoy

What seed is about the size of a speck of dust, is embedded in brilliant red fruit, is produced by the thousands, and ultimately becomes the icon of the Sonoran Desert? When all goes well the seed can result in a 200-year-old *Carnegiea gigantea*, better known as the saguaro. All had been going well for the saguaro for thousands of years up to about the turn of the twentieth century when a spin of earth's roulette wheel altered the luck of *Carnegiea gigantea*.

Carnegiea gigantea is very selective about where it spreads its roots and chooses certain parts of the Sonoran Desert due to an optimum balance between rainfall and heat. But the beneficial balance was about to change. In the late nineteenth century, inventors began to develop the internal combustion engine, ultimately the heart of the modern gas-powered car, which would have a profound impact on the desert climate.

Around August each year, the evolutionary mandate of the saguaro to procreate has been completed. Ripe fruit, housing about 2,000 to 3,500 tiny black seeds, will drop to the desert floor awaiting the monsoon rains and a chance to germinate. Only one or two seeds will live to fulfill their anticipated place on the planet. Under the best conditions, most will encounter drought, mortal freezes, and desert creatures looking for a tasty treat. The higher the desert temperature, the lesser the "best" conditions. Now temperatures are increasing degree by degree.

The mighty saguaro has spent eons evolving with the perfect climate for its seedlings. Climate is the determining on-off switch for the germination of the saguaro seedlings. Although saguaros are not in "The International Union for Conservation of Nature's Red List of Threatened Species," climate change has severe implications for this giant. Seedlings are particularly vulnerable to drought years. Unsuccessful generation of seedlings is directly related to low drought years. The tiny bodies of baby saguaros have very little room to store water, and their shallow root system needs special care to survive during dry stretches. As climate is predicted to get hotter and drier, the young seedlings may not be able to keep pace with the rapidly changing temperature under the scorching desert sun.

In the past, theories of propagation espoused the notion that saguaros would live their best life in their specially chosen Sonoran Desert habitat, freely and naturally. The recommendation to grow saguaros in their natural setting is being challenged.

Research is beginning to tell a different story. With insufficient moisture, seeds will not germinate, and the young will die. When Mother Nature's nursery is not able to deliver safety in the drier and hotter climate, our saguaro seedlings will need tender loving care provided by human stewards. The most reliable way to raise saguaros naturally is from seed, but where is the most reliable setting?

A mature saguaro fruit is like a treasure chest, the holder of the esteemed ebony seeds. All parts of the saguaro are protected by federal law. Removing any fruit, even those on the ground, without permission could be a quick trip to the federal calaboose. The simplest option to access seeds is through a reputable nursery, supplier or with permission from the owner of cultivated plants. These tiny powerhouses will have been cleaned and dried already, minimizing any chance of another unwanted visitor, their arch enemy, mold.

Fortunately for plants and humans, a roll of the phytological dice makes us all winners at the botanical casino. With patience and a knowledge base filled with the needs of a saguaro, our baby seeds have a good chance to grow and prosper. Oh, and about those gas-powered cars, their evolutionary story is yet to be determined.

If you are interested in being a saguaro parent, or just want to give the seedlings a chance, several excellent resources are available, live and online. Visit Desert Botanical Garden (DBG) or the Center for Nature and Urban Wildlife (CNUW) at Scottsdale Community College in person. A couple of well-written “how to” grow saguaro seeds which can give you the basics are: [How to Propagate a Saguaro Cactus](#) and another with the same title, slightly different approach: [How to Propagate a Saguaro Cactus](#).



Saguaro seedlings at two months old by Ken Luiten. The seeds were germinated indoors, but have been living outside in the greenhouse under 40% shade cloth since this past April.

Editor's Note: You can read articles about seed growing in the on-line Indexes. Go to the centralarizonacactus.org website, click on the Newsletters tab at the top, then scroll down to the Plant Care Index and click on it. Then go down to the Seeds heading to read articles written by fellow club members growing from seed in this environment.



An overflowing pot a saguaro seedlings shortly before repotting. They were about eight months old at that point. By Ken Luiten.

TAKE YOUR HOBBY NATIONAL —JOIN THE CSSA FOR JUST \$10

By CSSA Treasurer Nick Diomede

As members of the Central Arizona Cactus and Succulent Society (CACSS), we already enjoy the fellowship of our local club through outstanding speakers, plant sales, education workshops, and the opportunity to learn from one another. But did you know that your CACSS membership also makes you eligible for a special discounted membership in the Cactus and Succulent Society of America (CSSA)? Because CACSS is an official CSSA Affiliate Society, our members can join as a Supporting Member for only \$10 per year—a 50% savings from the regular \$20 annual rate. This special membership is available exclusively to members of affiliate clubs like ours.

Why Join CSSA?

For just \$10 a year, you'll receive:

- Quarterly access to *To The Point*, CSSA's informative digital newsletter filled with articles on cultivation, conservation, research, affiliate news, and growing tips.
- Notifications of monthly educational webinars presented by respected growers, botanists, researchers, and collectors from around the world.
- Access to purchase seeds through the CSSA Seed Depot, offering a wide variety of cactus and succulent species.
- Supporting Member discounts for the CSSA Biennial Convention, one of the premier cactus and succulent events in North America.
- The opportunity to support CSSA's mission of education, conservation, research, and preservation of cacti and other succulent plants worldwide.

Strengthening Our Hobby Together

Local clubs like CACSS are the heart of our hobby, introducing new enthusiasts and building friendships within our community. CSSA provides the national and international connection—supporting research, publishing educational resources, promoting conservation, and helping affiliate societies thrive. When you become a CSSA Supporting Member, you're helping preserve these remarkable plants for future generations, while gaining access to valuable educational resources and opportunities that complement your local club membership.

Joining is Easy!

As a CACSS member, you are eligible for the exclusive CSSA Affiliate Supporting Membership discount. Simply contact our President and Affiliate Representative, Stephanie Halcrow to receive CACSS's membership discount code. Please do not share the code publicly, as it is reserved exclusively for current CACSS members.

Once you have the code, scan the QR code to access the CSSA membership portal. There, you can enter your contact information, apply the discount code and complete

your payment. Membership renews annually, although automatic renewal can be turned off during the sign-up process if you prefer.

For just **\$10 per year**, you can join a nationwide community dedicated to the appreciation, study, conservation, and enjoyment of cacti and succulents. We encourage every CACSS member to take advantage of this outstanding new affiliate benefit and become a CSSA supporting member today!

DESERT BOTANICAL GARDEN INTERESTING FACTS From the website

The Garden has:

- 103,250 herbarium specimens
 - 6,280 seed accessions
 - 4,870 taxa
 - 1,314 new accessions
 - 551 rare and threatened plants
 - 14,877 accessioned plants
 - Nearly three-fourths of the total number of species in the cactus family are in the collection.
 - 26 scientists
-
- Eighty percent of the species in the collection are represented by at least one individual of wild origin, greatly increasing the value of the collection for scientific research, as well as for display and education.
 - The Garden features the world's most complete collection of the subfamily Opuntioideae, displaying 208 of 261 of the recognized species and varieties.
 - Other major groups in the collection include *Echinocereus*, *Mammillaria*, *Coryphantha*, *Ferocactus*, and South American cactus, especially *Copiapoa*, *Eriosyce*, and *Echinopsis*.
 - The Garden is designated as the National Collection of Agavaceae by the North American Plants Collections Consortium, now known as Plant Collections Network of the American Public Gardens Association.
 - The Garden displays 171 of the 286 known species and varieties in the genus *Agave*, making it the most prominent *Agave* collection in the United States and perhaps the world.
 - More than two-thirds of the plants in the *Agave* collection have known wild provenance, and nearly 85% of the seeds in the collection are of wild origin, greatly increasing the value of the collection for scientific research, as well as for display and education.
 - Other significant collections within the family include *Yucca*, *Furcraea*, *Hesperaloe*, *Manfreda*, and *Hesperoyucca*.

AWARD-WINNING PLANT: *KADENICARPUS PSEUDOMACROCHELE* SUBSP. *MINIMUS* By Michiel Pillet

AWARD: Best Cactaceae of the 2026 Show. It was awkward to win such an award, as I was one of the judges. This is a good opportunity for me to emphasize that I recused myself when I learned the plant was under consideration!

GROWER: This plant has been grown by myself, Michiel (Mich) Pillet of Prickly Prospects Cactus Nursery in Tucson, since I germinated it back in November 2020.

PLANT NAME: *Kadenicarpus (Turbinicarpus) pseudomacrochele* subsp. *minimus*. Seeds were purchased under the old name *Turbinicarpus krainzianus* subsp. *minimus*.

PURCHASED: The seeds were purchased from a nursery in the Czech Republic in January 2018. I got behind on planting seeds for several years, and it's a good thing they were still viable by the time of planting!



POT: The plant is in a pot made by CACSS member (and my girlfriend) Brooke Sykes. She currently lives in Los Alamos, NM, where, to my benefit, she has access to a pottery studio.

FERTILIZER: Like all my other plants, it receives fertilizer at hydroponic concentrations every month or two. I exclusively use Dyna-Gro (now SuperThrive) Bloom with an NPK ratio of 3-12-6. I'm not too worried about exact ratios, but this fertilizer has a complete essential micronutrient profile.

POTTING MEDIUM: The mix I use for almost all of my plants is very low in organic components. I currently use a mix consisting of 50% black lava sand, 25% pumice, 12.5% decomposed granite, and 12.5% compost. (continued)

SUN EXPOSURE: I grow my plants in shade houses under ~50% shade. This species, like all *Turbinicarpus*, handles the sun very well.

WATERING: Most of my plants, including this one, get one deep and one superficial watering once a week during spring, summer and fall. During winter, I water shallowly once a week.

FROST PROTECTION: I heat my shade houses to 45 degrees F. It's very likely that this species could handle light frost.

OTHER NEEDS/COMMENTS:

- Several species of rodents have told me that *Turbinicarpus* look very tasty.
- The seeds this plant derives from came with field number VM 493, which allows me to confidently state where seeds, once upon a time, were collected. It was in the Mexican state of Hidalgo, in or around a place called San Andres.
- I was surprised to get an award for this plant, as its small size means it is often overlooked. I suppose one lesson here is that when selecting plants to enter in the Show, don't ignore your smaller species and specimens.



Kadenicarpus pseudomacrochele subsp. *minimus* flowers by Michiel Pillet.

COCHINEAL INSECTS By Sue Hakala



Cochineal on an *Opuntia* by Wikipedia.

What's that white cottony stuff on my cactus? *Dactylopius coccus*, cochineal, is related to aphids, scale and mealy bugs. They live on prickly pear cacti and chollas as a parasite. The bug lives under a white, sticky, fluffy-looking layer that looks like cotton candy, secreted by the female around her body. She hides herself behind it as she sucks out the juices of the plant. The carminic acid in her body fluids provides a dye so powerful that it will color anything it touches with flaming red. In Peru, the bugs are harvested by hand, dried, then pounded into a fine powder. It takes about 70,000 female bodies to make one pound of dried powder. Cochineal powder is used today in lipsticks, rouge, sausages, desserts, jams, gelatin desserts, juice beverages, cheddar cheese, dairy products and a whole lot more.

When you find cochineal on your cactus, others in your neighborhood likely have it too. It can often plow through a neighborhood, destroying all the prickly pear cactus and chollas it encounters. The bugs are spread on the feet of birds.

The most effective way to deal with cochineal is to dab the fuzzy protective layer with alcohol since this suffocates the bug. If you have a small infestation, this can work; you can also blast them off with a strong spray of water. As soon as you notice the white fluffy stuff, go at it. They spread very quickly, and will kill your plant. You will need to repeat the water blast in 7 days, and again in 14 days to kill the new hatchlings and egg cases. Be sure to get in the pads where they join the plant, as this is a favorite hiding place. Large infestations will need Malathion applied in the 7- and 14-day cycle. Add a little dish soap to help the chemical stick to the plant better. You will know that you have been successful in killing them when the white stuff looks gray. Squeeze or poke the fuzz, and if there is no red, they are all dead.

THE PRESIDENT'S PRICKLE By President Stephanie Halcrow

Happy September! Lots of interesting and beautiful content in this month's Central Arizona Cactus and Succulent Society (CACSS) newsletter, *Central Spine*. You won't want to miss the book review by Sylvia Lee on caudiciform pachycaul succulents (say that three times fast!) as well as an article by our very own newsletter Editor Sue Hakala, on those pesky cochineal insects. There is much more including, our continuing feature of the award-winning plants from the 2026 CACSS Show and Sale.

Speaking of the Show and Sale (S&S), the S&S Committee is already in full swing with their planning activities for 2027. Vendors are locked in, show messaging has begun, and we are actively collaborating with Desert Botanical Garden to make the 2027 CACSS S&S the best one yet.

Your board continues its efforts of transparency, compliance and accountability, to include publishing the minutes from the board meetings, as well as being stewards of the club's resources. To that end, the members of the Nominations and Elections Committee (Kathi Metzger, Elaine Hu and Scott McMahon) were approved at the August CACSS board meeting. If you are interested in shaping the future of CACSS and serving on the board, please contact them. Additionally, the board has started its annual budget process led by our very own Assistant Treasurer Hank Radda. This process is a key part of the board's fiduciary duties.

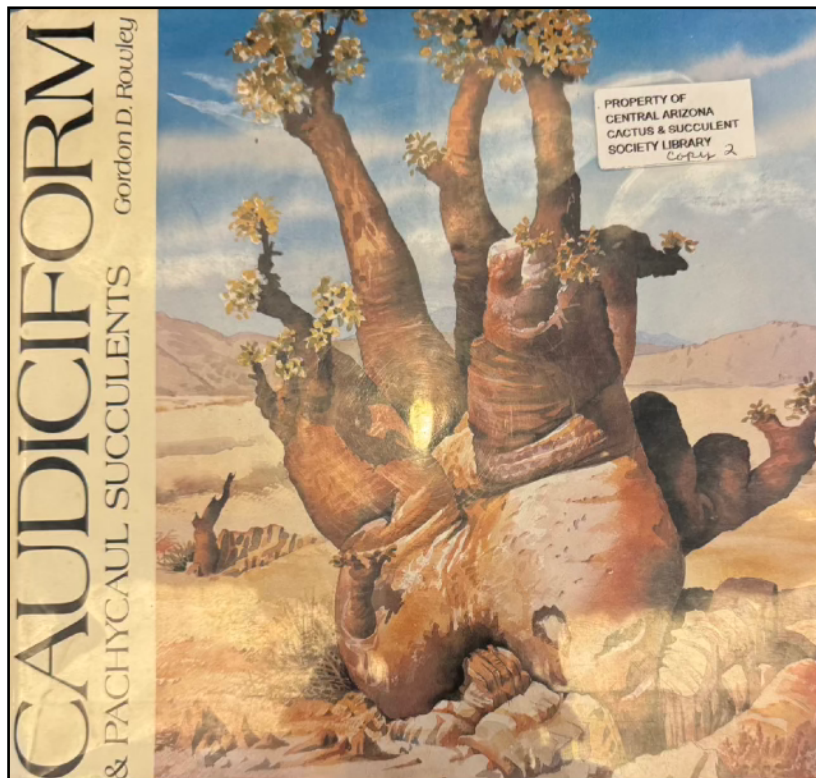
If you attended the August CACSS monthly meeting, you are aware that we are actively working on this year's pumice pile. This is a great benefit to club members. For the last few years, this was made possible by the generosity of a local nursery and their willingness to let us store the pumice pile at their location and give the club access. We are in discussions about what this looks like in the future, and have several options already in play. The pumice pile might not be available in October, but I feel very confident that the club will be able to continue this long-standing tradition.

In closing, I'd like to invite you to attend a CACSS board meeting. The dates and times are located on the CACSS events page, but are normally held immediately prior to the CACSS monthly meetings. We even have a portion of the board meeting (at the beginning) to hear from you. Look forward to seeing you soon, or reach out to me at stephanie.halcrow@centralarizonacactus.org.

Stay Prickly!

CAUDICIFORM AND PACHYCAUL SUCCULENTS By Gordon D. Rowley
Review by Sylvia Lee

On the paper cover of the book, there is a picture of a pachycaul tree, one of those twisted elephant things. I looked up the definitions of the two foreign words in the title. I had always thought the term “pachy” referred to “elephant,” but it means “thick” and “caul” means “stem.” Just inside the book, there is a “Dedication” page with a brief biography of Dr. Hermann Jacobsen. I had to look up the definitions of more words before I fully understood Hermann’s contributions to botany, such as



Mesembryanthemaceae.

This was the name of a botanical family whose plants are now placed in the Aizoaceae family. Ah, ancient botany. No wonder I’d never seen the word before.

The next two pages are filled with small pictures of *Caudiciform* and *Pachycaul* plants*. Below the pictures are words and page numbers which indicate the first page of each chapter. The stem shown in the final picture (on the last page of pictures before page 1) illustrates a common swear phrase, which I won’t state here because it cannot be used in polite society.

Be sure to read the Preface before you dig into the meat of the book. The paragraph on page xii that begins “In layout, I decide...” will help explain the chaotic chronology of the book.

The written text is interesting and the photographs are fascinating. On page 7, verbiage, in small type, explains a full-sized picture of a strange plant that is on page 6. “*Pachypodium namaquanum*, an unusually large and freely branched specimen, a stem succulent doing its best to become *Pachycaul* and upset man-made artificial classifications.” What is a “stem succulent” and how does a *Pachypodium* become a *Pachycaul*? Read the chapter carefully and you might learn the answers.

The chapters have intriguing titles. The second chapter is “Coming To Terms.” In this chapter, the author explains the definitions he uses for certain words. He also has sketches of various plant forms. *Hemicryptophytes* look suspiciously like carrots or parsnips that are very fat at their top ends, but he doesn’t seem to include them as *Pachycaul* plants. But from now, on when I eat a carrot, I will think of elephant legs.

In the third chapter the author enumerates and explains the twelve things that he feels make a plant *Caudiciform*. Towards the end of the chapter, he shows a picture of two climbing vines that he says are *Caudiciform* (“fat plant”), or rather, the roots are. I am surprised to think that the slim, wiry Southwestern vine called cucumber vine or Gila manroot (*Marah gilensis*) these days is a “fat plant.” But it does explain the name I first learned for the plant, man-root. A large taproot bisects a short ways down in the soil, and reminds botanists of two legs of a human hanging off a fat butt.

Each chapter begins with general statements about the group under discussion in the chapter and sometimes gives important information about raising the plants in the garden. The chapters are short but are filled with excellent pictures and useful descriptive information of individual species. Each chapter is about a group of plants with similar body forms (in terms of body nomenclature, at least) and contains specimens from several genera. This sounds chaotic, but is probably an excellent way for the reader to begin to sort out and identify *Caudiciform* and *Pachycaul* plants.

The book is full of facts, descriptions and interesting tidbits about individual plants. It will be enjoyed by people who are enthusiastic about plants that have overly fat parts. An example is in these sentences on page 127. “The *Caudiciform* habit, as we have seen, evolved independently in a large number of different genera as a result of long-term trial and error in the face of increasing drought conditions. At least, that is the most likely assumption in absence of a stud book or Burke’s Peerage for flowering plants.”

Find this book in the CACSS library.

**Caudiciform* plants are a unique species characterized by a swollen, woody or fleshy plant base known as a caudex, which functions primarily to store water during dry periods.

CACSS INDEX COORDINATOR WANTED By Sue Hakala

Position: CACSS Index Coordinator

Duties: Monthly, add newsletter articles to the annual index for posting on the website. Annually, preparing all of the individual indexes for posting on the website. Our web master does the posting.

Time Required: About 30 minutes a month and about another hour annually.

Skills Required: Typing and attention to detail.

Impact: The indexes make all the articles that have been in the *Central Spine* since 1979 available to members to broaden their knowledge of how to successfully grow plants here in the Sonoran Desert. The indexes are particularly helpful to those new to growing cactus and succulents here.

Team: You work with a proofreader who helps make sure the indexed articles are as accurate as possible.

I've served as the Index Coordinator for the past 10 years and am willing to train the new one and to serve as the proofreader for the first year. It's not hard, doesn't take a lot of time, and makes a BIG contribution to our club. Let me know if you have any questions.



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.



How and When to Use AI as a Writing Assistant

A note from Tom: I enjoy writing articles for our club newsletter. However, I no longer impose on my former-English-teacher wife, Barb, to correct my punctuation, untangle my run-on sentences, and make my prose clearer and more concise. Instead, I ask artificial intelligence (AI) to do it, and our marriage has benefited immensely!

Except for this article, I normally would not ask AI to write an entire article for me. But if you don't enjoy writing, I think it is perfectly reasonable to ask AI to draft one, provided you are transparent about its role and, most importantly, you should thoroughly check what it tells you for accuracy. The remainder of this article was not written by me. It was generated by ChatGPT, and yes, I fact-checked it.

AI can be a remarkably useful writing assistant. There are several ways to use it. You can ask AI to generate an entire first draft, particularly if you have done the research but don't enjoy the writing process. Or, you can give it your own rough draft and ask it to organize the material, improve the flow, eliminate repetition, correct grammar, and make it more concise and readable.

That may be one of its most useful applications. It can take a 1,200-word article that says essentially the same thing three different ways, and turn it into a 700-word article with much tighter words without losing the important information. AI can also suggest titles, explain technical material in plainer language, identify gaps in an argument, and suggest questions you may not have considered.

But there is a big catch: AI can be wrong. AI is not a fact-checker, and it should never be treated as an authoritative source. It can produce information that sounds completely convincing and is nevertheless wrong. It can even invent citations, quotations, studies, and references. AI companies themselves acknowledge this limitation.

Whenever an article contains factual information, particularly scientific or historical information, I suggest asking AI something like: "Give me the original sources for these claims and distinguish between information you are confident about and information that needs verification." Then check the sources yourself. Don't simply assume that a citation supplied by AI is genuine. Go to the original paper, book, government publication, botanical database, or other authoritative source and see whether it actually supports what the article says. The AI-generated prose should never be the source; the underlying source should be.

What about authorship? If AI has written a substantial portion or all of an article, I don't think the human should simply put his or her name on it as though they personally wrote

every word. But AI isn't a co-author, either. It cannot take responsibility for what it produces.

A reasonable approach is to acknowledge its contribution. For example, "This article was prepared with substantial assistance from ChatGPT. The author reviewed, fact-checked, and revised the resulting text and takes responsibility for its content." Exactly how much disclosure is appropriate depends on the publication, but transparency is preferable to pretending AI wasn't involved.

For a newsletter article, I see three situations:

1. You write the article; AI edits it. You're clearly the author. You might simply say: "ChatGPT was used to suggest edits for clarity, conciseness and readability."

2. You provide the research, facts, ideas, and structure; AI turns them into an article that you substantially review and revise. I'd still regard you as the author, with a disclosure such as: "ChatGPT was used to assist in drafting this article. The author reviewed, fact-checked, and revised the resulting text and takes responsibility for its content."

3. You give ChatGPT a subject and say, "Write me an article," and make only minor changes to what it produces. This is the trickiest case. I wouldn't put your name on it without disclosure. A more explicit acknowledgment might be: "This article was generated with substantial assistance from ChatGPT and subsequently reviewed and fact-checked by the author."

So why use AI at all? We shouldn't be afraid of it. A calculator didn't make us stop doing arithmetic, and spell-checkers didn't make us stop writing. AI is another tool, an extraordinarily powerful one, but one that requires supervision.

The ideal arrangement is simple. Let the human provide the curiosity, experience, judgment and original observations. Let AI help with the grunt work of organizing, drafting, editing, and polishing. Let reliable original sources determine what is actually true.

Most importantly, fact-check it. As ChatGPT itself will readily admit: I can sound very confident and still be wrong. That's probably the single most important thing to remember when using AI for writing.

If you have any questions, contact me.

PYGMAEOCEREUS DENSIACULEATUS By Elton Roberts

To those that think I am crazy, and to those that know I am crazy, I love this plant. It is a rare plant from the beach area of Peru, so they say anyway. In the many years I have been growing everyday and rare cactus, I have never seen a photo of the plant in habitat. I have read that it is very rare. I can believe it, since seldom do you see the plant anywhere.

Over the years, I have managed to flower the plant quite a few times. Never two different plants at the same time though, so I have never gotten any seed. I will keep trying.



Photo 1, *P. densiaculeatus* crested with light spines.

Photo 1 above, shows the crested growth. Photo 2 next page, is of a plant that cannot make up its mind what it wants to do. I have taken cuts off the normal stems and grafted them in pieces about 3/4 of an inch long. I do not know if this is a center cut or an end cut that has grown normal stems and then a crested head. Or, if it was a crest that grew normal stems. It looks like there are five normal stems. One looks like it grew out of the base of the crested head. I just never know what plants will do.

(continued)



Left, photo 2, *P. densiaculeatus* normal and crested. Below, *P. densiaculeatus* a crested plant.



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.



Cloudless sulphur butterfly on *Senna covesii* flowers that smell so good in the early morning by Wendy Barrett.

CACSS OFFICERS, BOARD MEMBERS AND COMMITTEE LEADERS 2026

Officers: President **Stephanie Halcrow** | Vice-president **Javier Gurrola** | Secretary **Nelson Gray** | Treasurer **Tammie Jansen**

Members-at Large

- Serving through December 2026: **Stephanie Halcrow** | **Elaine Hu** | **Ruthanne LaQua** | **Kathi Metzger**
- Serving through December 2027: **Pat Adler** | **Dan Bernstein** | **Mary Dokes** | **Mark Kramoltz** | **JR Trevas**

CACSS PROGRAM AND COMMITTEE CHAIRS 2026

- Annual Show and Sale Committee: **Pat Adler, Joan McDonnell, Kathi Metzger, Ruthanne LaQua**
- Archivist/Historian: **Lois Schneberger**
- Auction Chair: **Javier Gurrola, Ann Winchell**
- CSSA Affiliate Representative: **Stephanie Halcrow**
- Donations Coordinator: **Chris Ginkel**
- Education Committee: **Stephanie Halcrow**
- Facebook Administrators: **Tom Briggs, Celeste Gornick, Ken Luiten, Bj Seemuth, Thom Young**
- Facebook Swap and Shop Page: **Tom Briggs, Bj Seemuth**
- Google Workspace Co-administrators: **Emily Adler, Janet Catlett**
- Graphic Designer: open
- Holiday Party: **Lisa Moore**
- Keeping in Touch with Members: **Jo Davis**
- Librarians: **Diana Rogers, Sylvia Lee**
- Membership Chair: **Pat Adler**
- Newsletter Editor: **Sue Hakala**
- Private Plant Sales at Meetings: **Chris Ginkel**
- Propagation Education Group (PEG): **Tristan Davis**
- Pumice Sales: **Rich Caravello, Bob Hopfner**
- Recognition Committee: open
- Speaker Coordinator: **Lisa Moore**
- Tech and Communications: open
- Website Administration: **Peter Bockenthien, Angela Stephens, Brian Simmons**
- YouTube Administrator: **Brian Simmons**

Direct any comments, questions, ideas to Editor Sue Hakala.