Central Spine

NEWSLETTER OF THE
CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY

JUNE 2020

PRESIDENT'S MESSAGE

By Chris Ginkel

I was hoping that in this edition of our newsletter I would be able to share some good news concerning our next in-person meeting at the Desert Botanical Garden. Unfortunately, we are still in a holding pattern as to whether or not we can hold our June 28 meeting. As of right now, there can be no events or gatherings of more than 10 people at the Desert Botanical Garden. The DBG is still in a planning phase on how to cautiously reopen, and they would need word from the State of Arizona or the CDC that allows for larger gatherings before we can resume our meetings there.

I have been in contact with Patrick Hanson, the social event and wedding venue planner at the DBG, concerning this matter. I will provide updates as I receive more information. I will call for a special CACSS board meeting using the Zoom platform once I receive word from Patrick on when and how our general meetings can resume at the DBG. During that board meeting, we will decide how to best proceed with meetings.

The CACSS has a YouTube channel and we want to start using it to provide speakers to you. We will provide you with a link so that you will be able to access a presentation at your leisure. We have a video recording of a presentation given by Greg Starr on *Agaves* at the Cactus and Succulent Society of America Convention in 2019. Greg has graciously agreed to let us post his presentation. Our Vice President, Eric Holst, is in the process of editing the presentation. I hope to soon provide information on how to view it. We are also exploring the idea of having speakers create presentations for you to watch should we not be able to return to having in-person meetings again for the foreseeable future. We will stay connected to you via this newsletter and emails.

If you have not already, we would love for you to join us on Facebook and Instagram. You will find us listed as CentralArizonaCactus.

Thanks to the coordination and hard work of CACSS board member Tom Briggs, we have had two successful Pumice Pile events. The first was on May 23, and the final one until the fall, was on June 6. Many thanks also to Gard Roper for his past efforts in

making these events happen and providing Tom with the guidance necessary to continue to provide this benefit to CACSS members.

Article 1 Section 3 of the bylaws of the CACSS describes our purpose. One of our purposes is to support the Desert Botanical Garden of Phoenix and other organizations of similar purpose. Many organizations have suffered financially due to the Covid-19 crisis, shutting down their operations. The CACSS has in the past, and will continue in the future, to make donations to the DBG and other organizations of similar purpose when we can. The CACSS board voted to make a $5,000 donation to the DBG on July 31 and another $5,000 on November 30. The board also voted to donate $2,500 to Boyce Thompson Arboretum on July 31 and another $2,500 on November 30. These donations are small compared to the financial losses both organizations have suffered during this crisis, but we wanted to do what we were financially able to do at this time and show that our hearts are with them.

Many of you tried to contact me after the last newsletter by hitting the contact us tab on our website. Your message is then forwarded on to me. I will answer every one.

I miss all of you, but your safety is most important. We will get through this crisis together.

Publication of material in the *Central Spine* does not imply agreement with the ideas expressed therein by any portion of the membership of the CACSS, nor does it constitute an endorsement A nesting Mourning Dove takes advantage of the shade provided on this new cactus cutting at the Desert Botanical Garden. or support for any portion of such material by the CACSS, or the *Central Spine*, regardless of any position or office held by the author. All such material represents a comment and/or personal opinion of the author.

PROVIDING SHADE FOR CACTUS AND OTHER SUCCULENTS

Text and Photos by Tom Gatz

Cactus and other succulents that enjoyed filtered shade under our trees all summer long are often exposed to more intense sunshine when branches or trees blow down during summer monsoon storms, or in the early fall when the sun moves lower in the sky, peeking below the tree canopies in our yards, while mid-day temperatures remain high. Be prepared to provide supplemental shade, if needed, at these times of year.

Agave ovatifolia can be acclimated to almost full sun. However, this specimen is shaded by a wall all winter long so it never gets a chance for its new leaves to adjust to the sun before summer hits. Therefore, it benefits from 20-30% shade cloth in the summer.

A nesting Mourning Dove takes advantage of the shade provided on this new cactus cutting at the Desert Botanical Garden.

Sunburn can quickly occur in just one afternoon on a scorching day, so keep some shade cloth on hand for emergencies. In a pinch, you can even provide shade using the white frost cloth sold in nurseries. Some folks invest in shade umbrellas, like those sold for pool decks, to protect sun-sensitive plants from the hot afternoon sun.

You can also use shade cloth to gradually acclimate nursery-grown plants that can eventually take full sun. I've had good luck starting with 50% shade cloth and reducing it to 30% shade cloth after a few months (or an entire summer) and eventually removing it altogether, provided that the succulent plants do not begin to turn yellow. A yellowing cactus or succulent can be restored to its healthy green color, but once it turns white or brown, it is permanently scarred. Purple or red is a natural response of many cacti, aloes, agaves, and some other succulents to strong sun or other stressors and is

usually not a concern. Another option is to use multiple layers of 20 or 30% shade cloth to either increase or decrease the amount of shade desired.

Unfortunately much of the shade cloth sold at garden centers provides 70% shade or more. This is way too much for many desert plants, and they may never acclimate to full sun with this much shade. You can find shade cloth of varying densities by shopping around online or locally from Arizona Bag Company (602-272-1333, 2530 W. Buckeye Rd., Phoenix).

Some cactus, such as this Cephalocereus senilis have their own sun protection, including dense, hairy spines to help protect them from intense sunlight.

If you just can't stand the look of shade cloth cloaking your plants like a shroud, try cutting a few boughs from a mesquite tree and draping them over the plant needing protection. As the leaves dry, shrink and eventually drop off, the plant will gradually get more and more sun and, hopefully, acclimate. If it looks okay, remove the branch. If it begins to yellow again, add some fresh branches. Most sun-sensitive succulents can be safely uncovered by early November, just a few weeks before we have to start thinking about providing frost protection!

Thanks to Scott McMahon and Chad Davis for helping me with an earlier version of this article.

GLOBE CHAMOMILE/STINKNET

Text and Photos by Jan Emming

If, by any chance, you see this plant coming up in your garden or anywhere else for that matter, pull it immediately! This is a South African invader called globe chamomile *(Oncosiphon piluliferum)*. While it is actually reasonably attractive, that beauty belies the fact that it is explosive in terms of its ability to spread across large tracts of intact desert land. This is a winter growing annual in the sunflower family *(Asteraceae)* that spreads via small seeds, easily distributed by wind, foot, flowing water, and vehicular traffic. Seeds germinate in the fall with cool-season rains and grow all winter, blooming prolifically in March and drying out by late spring.

I remember a time back before the mid-2000s when the desert near Lake Pleasant and I-17 north of Phoenix was free of this particular invasive species. In the decade-and-a-half since then, it has completely taken over the desert floor and covered thousands of acres without anybody knowing how dangerously fast-spreading it was. Not only does the plant outcompete native species for resources, but it also creates a tremendous fire hazard when it dries out. It has a pungent and often objectionable odor, leading to one of its common names of stinknet. The odor can even be smelled inside closed up homes and vehicles and is particularly noticeable on rainy nights when the humidity is high. Some people are allergic to the smell, as well as the pollen and plants. If handled, they can cause irritation and rashes on the skin.

I admit that I find this modest annual appealing, but because it is so incredibly invasive, I cannot afford to try growing it. It was imported as a drought-tolerant annual wildflower from South Africa, intended to be used ornamentally in desert gardens, and it's proven to be way too successful in the Sonoran Desert. It will likely also prove to be troublesome and highly invasive in the Mojave and Chihuahuan Deserts as well. This is yet another example of why extreme care must be taken when introducing ANY new plant (or animal) to a new ecosystem. So many highly invasive species were purposely

introduced for their beauty in the landscape and horticultural trade, and then escaped to become huge problems for native flora and fauna.

I just found the first few globe chamomile plants trying to grow on my property, no doubt imported by accident as seed contaminants in nursery potting soil. They are inconspicuous until they bloom and in low numbers. It is possible to not even notice them mixed in with the general landscape if you aren't well attuned to what your local ecosystem should contain. But once they reach a critical mass, they become impossible to ignore. Unfortunately, by that time, they are often extremely hard to control. It's very important that people learn to recognize this plant and remove it by pulling it before they can set seed and before populations get out of control. Don't be fooled into ignoring it until it's too late!

WHAT IS THE BEST WAY TO CONTROL IT? The best way to handle new populations of globe chamomile/stinknet, Sahara mustards, cheatgrass, and many other annual weeds of the desert, is to monitor for new invasions that are only a few plants or a few hundred plants in size and then hand-pull them before they can set seed. If you can recognize the globe chamomile (or mustard, etc.) invasion while the juvenile plants are still in their leaf-only form, pull them before they can go any farther. The distinctive foliage odor of globe chamomile/stinknet ought to help identify it when not in flower. It's also good to pull them while in bloom, but before any mature seed heads have started setting. If they are aborted in the flowering-but-not-yet-seeding stage, that entirely kills the plants too. Hand pulling is highly effective on small populations but is difficult or impossible in large or extensive ones. I focus a lot of my effort on watching for new weed invasions and stamping them out before they can spread. It's kind of like squelching a spot fire before it becomes a conflagration out of control.

It is unnecessary to remove foliage or flowering-only plants from the site if you happen to be hiking outside and don't have a plastic bag handy for removal. Just make piles of them in an inhospitable, dry, open spot and pin the pile down with a rock or tree branch. The weeds will dry out quickly in the AZ sun and wind and be unable to reproduce. Because they were killed before they were able to set seeds, there is no need to remove them or carry out ungainly, heavy bags of leafy material. Just let it dry and

decay in place. Globe chamomile/stinknet is an annual and do not have perennial roots. If some plants break off at the soil line and you don't get the roots, it is not a worry since they won't regenerate from roots anyway if the top foliage is removed.

Once they start dropping mature seeds, characterized by drying, flaky seed heads that shatter into dusty pieces loaded with tiny seeds, the best option is to carefully gather the plants into large plastic garbage bags, while trying to minimize the amount of incidental seed droppage that happens. Remove the bags of seed-infested plants and discard into the landfill.

If this is impossible, and I readily understand that it might well be, my policy is to gather all the seed-bearing plants into one of those piles (or as many as needed) and pin them down with a rock or dead branch again. When selecting a site to make a pile, I choose one that is wide open, barren sandy or rocky as the case may be and spaced in between any other nearby plants. Many weed seeds have a much greater chance of survival if they germinate near or underneath established perennial vegetation, and by giving them a harsh, dry, sunny site, their growth is stunted and they are much smaller and set many fewer seeds. This at least delays the invasion process by several more years.

What this accomplishes is to concentrate all those seeds into a dense pile, rather than being spread out all over the desert by the wind. While some number of those piled seeds will all germinate in one place, this actually makes them much easier to control the following year. They all compete with one another, and most will die if they are so crammed together. Competition alone reduces the number of viable survivors for next year, in addition to them being in a poor spot.

There may be some survivors however, but even this is a relative bonus for future control efforts. After all, if all of the few surviving seedlings are in one small area, then you can make short work of them the next year without having to crawl all over the place, stumbling over the rocks and getting poked by spiny vegetation. Gathering thousands of individual plants is a daunting task. Effective annual weed control requires several visits over several years to both monitor and pull any survivors, and the easier you make future weed-pulling sessions, the more likely you are to return and just do it. You will be making progress!

By the way, you are not spreading the seeds by failing to bag and remove them, and you are not making the problem worse. What you are actually doing is stopping the spread by using the concentrate, pile and pin method. It's not perfect, but it is way, way superior to doing nothing. After all, doing nothing is precisely how these invasive weeds spread! Anything you do to get in the way of that is a benefit to the ecosystem.

Thanks for reading, and thanks for weeding!

FACEBOOK PAGE

By Michelle Schrade

Many new members join our society monthly, and not having had a meeting for a few months, I thought it would be a good idea to spread awareness of our FB page.

The CACSS FB page is an outreach of the Central Arizona Cactus and Succulent Society. Membership is open to anyone on FB who is interested in growing cactus. It is a public forum for discussion of topics related to growing cactus and succulents, including: photos of members' plants and gardens, growing and propagating cactus, identification, helpful hints, recommendations, and all things related.

You can join the CACSS FB page at: https:www/facebook.comgroup/cacss2/

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

Post with Most Likes: *A Garden in My Yard* posted May 6 by Beth Boesen with 394 likes.

Cactus of the Month: Astrophytum capricorne posted May 26 by Cherie Czaplicki.

Succulent of the Month: Fouquieria burragei posted May 8 by Tristan Davis.

WHAT PLANTS GROW IN THE FULL SUN?

By Lee Brownson

Photos by Sue Hakala

Authors note: I wrote this article using information I received from the following CACSS members, whose opinions I hold in high regard: Cathy Babcock, Pam Edsall, Tom Gatz, Chris Ginkel, Sue Hakala, Leo Martin, Scott McMahon, Nancy Mumpton, and Sue Tyrrel.

This is the most asked question by newcomers to the Valley and to the world of cactus and succulents (and occasionally from a few old timers too). The answer is that many plants do grow here in the full sun. The catch is that many more do not. Of course, that is no answer at all.

The problem is more complicated than reciting a list of species you might plant in the middle of your yard. There will be specific plant suggestions at the end of the article, but it is more involved than just putting a plant from some list into the ground and watching it grow. Here are a few things to consider before planting.

Euphorbia resinifera grown by Jo Davis.

Echinocereus engelmannii

It is obvious that whether or not a plant can take the Phoenix sun in the summertime is the prime factor, but winter temperatures are also important when choosing the full sun plant. There are plants that can take the full sun in summer, but cannot handle the occasional frost or a sustained cold spell. Unfortunately, it can freeze in Phoenix. Killer frosts were experienced in 2007, 2011 and 2013. Many outdoor collections were devastated. You can try to protect the less cold hardy species by planting under a tree or large bush and/or using frost cloth.

Size counts. Young plants are not as hardy as larger, more mature plants. Plants in containers smaller then one gallon will have trouble surviving in the full sun. It is better

to keep these plants protected from direct sun until they create a much larger and stronger root system.

From whom you acquire a plant can make a big difference in your success with full sun plants. Local nurseries are much more likely to have plants already acclimated to Arizona conditions. (They are also a great source of information about how to grow plants here.) Big box stores get most of their plants from California which are unprepared for Phoenix conditions. Even the plants they display in the full sun are not really ready for prime time Phoenix.

You must decide when to plant as all plants undergo shock when being transplanted. Temperature extremes in the summer and winter will just make it harder for a plant to adapt to a new environment. You can try to provide protection for the plants, but it does involve extra work, extra expense and more uncertainty of success.

Fall and spring are the best times to plant. Fall planting provides a chance for new roots to start to grow before the plant shuts down for the winter. Fall planting also lets a plant begin to adapt to the Arizona sun.

Agave salmeana cv. *'Green Goblet'*

Many people prefer spring, because that is when the majority of cacti and succulents enter into their most vigorous period of growth. They love the hotter daytime temperatures and the cool nights. However, spring is the driest time of the year so you must plan to help the transplanted plants with extra water. Another obstacle to success will be the growing intensity of the sun. In habitat, many plants start out under the protection of a nurse plant that provides shade. It is wise to provide the plant with some temporary shade protection for the first summer in its new location. Personally, I use shade cloth on every plant during its first full summer.

Long-time member, Leo Martin, suggests planting brittle bush (*Encelia farinosa*) or angel's trump (*Datura wrightii*) in your yard. These two perennials grow rapidly and can provide shade for your succulents for many years. Okra plants are annuals that grow large very quickly if provided ample water. Unfortunately, rabbits and rodents love okra, so it may not work for you.

These are a few of the challenges you face when landscaping an area in full sun. There are other issues which could be discussed, but there is limited space in the newsletter for an expanded discussion. It is time to name names. Which plants have the best chance of survival in the challenging Phoenix environment?

We hope that you can use this list as a starting point for finding cacti and succulents that will survive in the Phoenix full sun. Obviously, this is not the complete list. You may disagree with some of the plants on the list. That's okay. If a specific species was mentioned by more than one person, I have listed it only once to save space. All of these plants will do well in the full sun, but some may not like cold temperatures.

Chris Ginkel
Cylindropuntia acanthocarpa
Cylindropuntia bigelovii
Cylindropuntia imbricata
Echinocereus engelmannii
Ferocactus acanthodes
Lophocereus gatesii
Lophocereus schottii
Mammillaria grahamii
Mammillaria tetrancistra
Opuntia engelmannii
Stenocereus gummosus

Sue Tyrell
Agave ovatifolia
Agave macrocantha
Alluaudia procera
Dasylirion wheeleri green and gray
Euphorbia antisyphilitica
Echinocereus 'Claret Cup'
Portulacaria afra minima
Trichocereus 'Epic'

Scott McMahon
Carnegiea gigantea
Cereus hildmannianus
Echinocereus most
Ferocactus most
Opuntia ficus-indica
Opuntias, locally native
Pachycereus pringeli

Pam Edsall
Agave vilmoriniana
Aloe cryptopoda
Espostoa melanostele var. *nana*
Euphorbia resinifera
Fouquieria macdougalii

Tom Gatz
Adenium sp.
Agave deserti
Agave murpheyi
Agave salmiana cv. *'Green Goblet'*
Euphorbia rigida
Opuntia macrocentra
Opuntia stenopetala
Opuntia sulphurea
Pachycereus schottii
Pachycereus schottii var. *monstrosus*
Portulacaria afra
Aloe cv. 'Hercules'

Sue Hakala
Agave desmentiana
Agave desmentiana/weberi hybrid
Agave parryi
Agave potatorum
Agave stricta
Cereus peruvianus
Cereus peruvianus monstrose
Cleistocactus strausii
Cylindropuntia ramosissima
Ferocactus cylindraceus
Ferocactus cylindraceus var. *tortulispinus*
Ferocactus wislizeni
Mammillaria dioica
Myrtillocactus geometrizans
Opuntia erinacea
Pachycereus marginatus

Trichocereus cv. 'Firecracker'
Yucca rígida

Leo Martin
Cochemiera, all species
Bursera fagaroides
Bursera microphylla
Echinocactus texensis
Fouquieria splendens
Hamatocactus, all species
Hechtia, most species
Thelocactus bicolor
Aloe vera
Aloe divaricata
Aloe hereroenis
Aloe cv. 'Blue Elf'

Nancy Mumpton
Ferocactus latispinus
Ferocactus gracilis
Ferocactus emoryi
Opuntia aurea
Opuntia basilaris
Opuntia arizonica
Opuntia littoralis
Opuntia discata
Agave parryi var. *truncata*
Agave geminiflora
Agave victoria-regina
Agave utahensis
Agave colorata
Agave flexispina
Agave cv. *'Sharkskin'*
Aloe aculeata
Astrophytum myriostigma
Astrophytum ornatum
Astrophytum capricorne
Leuchtenbergia principis
Echinopsis huascha
Echinocereus coccineus
Echinocereus triglochidiatus
Echinocereus bonkerae
Echinocereus rigidissimus ssp. *rubispinus*
Echinocereus brandegeei
Echinocereus fendleri
Echinocereus viridiflorus
Tephrocactus articulatus f. *inermis*
Yucca rupicola

Cathy Babcock
Agave parryi var. *huachucensis*
Aloe vera
Aloe dhufarensis
Agave pelona
Agave obscura
Agave ocahui
Bursera hindsiana
Bursera microphylla
Pachycormus discolor

Cleistocactus strausii in flower

CACTUS AND SUCCULENT REVIEW

This free online quarterly journal is available at cactusandsucculentreview.org.uk. Edited by Sheila Cude, sign up to get it sent to you. Just keep in mind these articles are written by and for folks in England, which have very different growing conditions than here.

This edition is 52 pages of cactus and succulent articles including:

- *Mammillaria formosa and Friends*
- *When Things Go Wrong* (mealybugs, spider mites, viruses, and other fun stuff)
- *Aeoniums Growing Them and Knowing Them*
- *Tulsa pumila* (*Haworthia*)
- *Madagascar Spiny Alluaudias* and lots more

Be sure to visit CACSS on the web at:
centralarizonacactus.org the Society's website
Facebook centralarizonacactus
CACSS Swap and Shop
Instagram

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Officers: President **Chris Ginkel** | Vice President **Eric Holst** | Secretary **Heather Holst** | Treasurer **Judy Tolbert**

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CACSS PROGRAM AND COMMITTEE CHAIRS 2020

2020 Annual Sale Chair: Nick Diomede
2020 Annual Show Chair: Thom Young
Archivist/Historian: Lois Schneberger
Audit Committee: Mike Gallagher
CentralArizonaCactus Swap and Shop Group: Chris Ginkel, Dan Smith
CSSA Representative: Mike Gallagher
Donations: Jim Oravetz
Facebook Coordinators: Chris Ginkel, Celeste Gornick, Ken Luiten, Dan Smith, Thom Young
Fertilizer Sales: Eric Holst
Holiday Party 2019: Sue Glenn
Librarians: Wendy Barrett, Nancy Mumpton
Mailed Newsletters: Sue Tyrrel
Keeping in Touch with Members: Jo Davis
Membership: Beth Kirkpatrick
Newsletter: Sue Hakala
2020 October Auction Chair: open
Plant Rescue: Lee Brownson
Private Plant Sales: Sue Tyrrel
Programs and Room Setup: Nick Diomede
Propagation Education Group (PEG): Tristan Davis
Pumice Sales: Tom Briggs
Refreshments: Maggie and Amanda Hines
Website: Beth Kirkpatrick

SPECIALISTS TO CONTACT WITH QUESTIONS

Wendy Barrett Nancy Mumpton
Co-librarians for CACSS collection.

Nicky Davis
Manages the Seed Depot.

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.

Mike Gallagher
Specializations include *Aloes*, *Haworthias*, columnar cacti, and *Turbinicarpus*.

Chris Ginkel
Co-manages the Facebook page and CACSS Swap and Shop page.

Eric Holst
Manages the fertilizer program.

Ken Luiten
Manages the Instagram page.

Dean Patrick
Specializations in softwood stem-cuttings, plant division and seed starting, rooting cacti, *Agave* and *Aloe*.

Tom Briggs
Manages the pumice pile.

Dan Smith
Specializes in Adenium, raising *Adeniums* from seed, grafting and *Adenium* culture in general, and co-manages the Facebook page.

Bob Torrest
Specializations include desert landscaping, unusual (including rare fruit) trees and shrubs, *Aloes*, *Agaves*, and columnar cacti.

Sue Tyrrel
Manages selling at meetings.

Thom Young
Co-manages the CACSS Facebook page, 2020 Annual Show Chair.

Beth Kirkpatrick
Manages the website
Anna Rosa Lampis provides technical support.

Send comments, suggestions and submissions to cacsscentralspine@gmail.com