



Central Spine

NEWSLETTER OF THE
CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY

June 2018

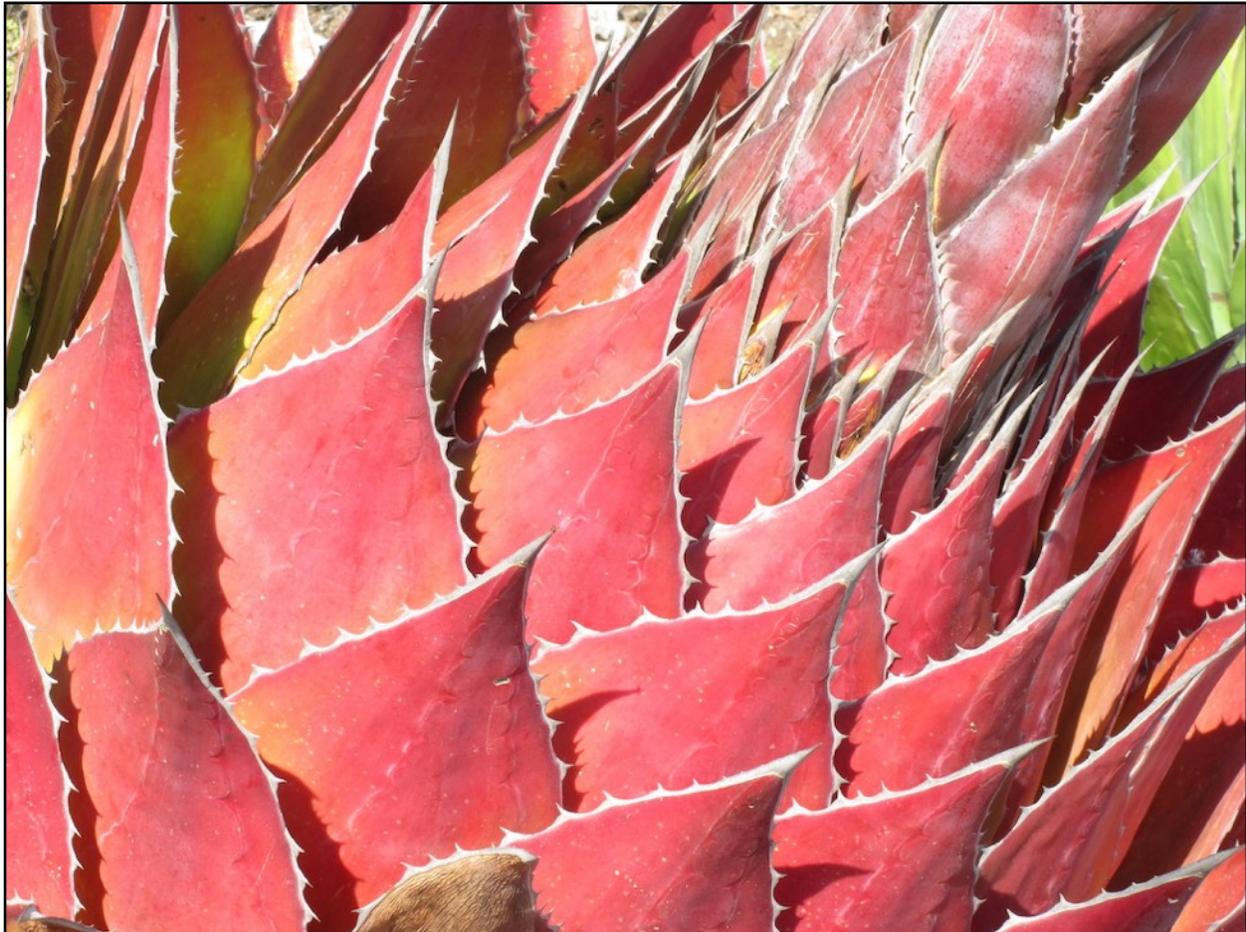


In her article in this issue, Linda Larson takes us on a tour of the La Jardin Exotica Botanical Garden in Monte Carlo, Monaco. This view of the garden overlooks the Mediterranean Sea.

Next newsletter issue submission deadline is **July 5**, 2018. Email all submissions to: Editor Sue Hakala at cacsscentralspine@gmail.com. Members are encouraged to submit medium resolution images of their plants with captions for inclusion in the newsletter when and where possible.

JOIN GREG FOR OUR JUNE 24 MEETING AT 2 P.M. IN DORRANCE HALL AT THE DBG. Greg will be bringing plants and books to sell. If you own a book already, bring it for Greg to sign.

Greg has been asked to speak at Succulenticon 2018 in Perth, Australia and he has put together a brand-new program that he would like to preview before the September convention. This presentation provides the audience with the basics of *Agaves*, beginning with the history of names and finishing with a flourish of cultural notes. He promises that it is not as boring as it sounds. There will be a lot of pretty pictures, myths will be busted and even good information about these amazing plants. If you have an interest in succulent plants, and Greg suspects that you do since you are a member of a cactus and succulent club, then come on out and learn just one thing about this fascinating genus of plants.



Greg was born and raised in Tucson, Arizona, and has grown to love the desert and its flora and fauna. He graduated from the University of Arizona in 1979 with a Bachelor of Science in Horticulture, and after working in the landscape industry, he went back to the University to study Botany and further his education in horticulture. Greg worked for Warren Jones (co-author of *Plants for Dry Climates* and *Landscape Plants for Dry Regions*), and Dr. Charles Mason at the University of Arizona herbarium.

Greg made his first foray into the world of collecting in 1979 when he traveled to Texas with Warren and Bill Kinneson where he saw firsthand, in habitat, the many plants he had only experienced in the nursery or landscapes. He emerged from the university in 1985 with a Master of Science in Horticulture, with a special emphasis on botany.

He opened Starr Nursery in the summer of 1985, and has specialized in low water use plants for landscaping in southern Arizona. Greg has traveled extensively in Mexico and the southwestern United States to study the plants for their potential landscape use in desert regions of the world. He has also traveled to South Africa and recently to Madagascar in search of juicy succulents.



Greg has written several horticultural articles for the journal *Desert Plants*. Topics have covered various groups of plants as well as botanizing in South Africa. He has also described two new species and a subspecies of *Agave*, three new species of *Hesperaloe*, and revised the genus *Hesperaloe* in a monograph published in the journal *Madroño*.

The first *Agave* species Greg described was *Agave ovatifolia*. He worked with Dr. Jose Angel Villarreal in describing this amazing plant which has been dubbed Whale's Tongue *Agave*, a reflection of the incredibly wide leaves that sometimes double as water harvesting vessels. He and Dr. Tom Van Devender described *Agave parviflora* subsp. *densiflora*, a new find from the Sierra Madre Occidental in eastern Sonora.

Greg's first book, *Cool Plants for Hot Gardens*, was released at the end of April 2009, and is currently out-of-print. His second book, *Agaves: Living Sculptures for Landscapes and Containers*, was released in early May 2012.

He was a co-author for the recently released *Field Guide to the Cacti and Other Succulents of Arizona*. He has taught Plant Biology and Plant Materials classes at The Art Center Design College in Tucson for their Landscape Architecture program.

Since 2010, Greg has focused intensively on the *Agaves* of Baja California. He and Bob Webb described *Agave azurea*, a new species from the Picachos de Santa Clara, and submitted a revision for the genus on the Baja California peninsula to the journal *Haseltonia*, published January 2015. He recently described *Agave cremnophila* from southern Oaxaca, and is busy researching the rest of the *Agaves* found down there.

Greg spends most of his days tapping at the computer hoping another book will take shape, preparing PowerPoint presentations and tending to Starr Nursery, specializing in *Agaves* and related plants as well as other succulents and new introductions of perennials, flowering shrubs, and small trees from arid and semi-arid regions around the world.

The CACSS Library has copies of the three books Greg mentions.

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CACSS Swap and Shop, a place to connect with members.

LA JARDIN EXOTIC BOTANICAL GARDEN: MONTE CARLO, MONACO

Photos and Text by Linda Larson

Some of the best views in the world are from a garden.

If you find yourself in Monte Carlo and you don't expect to win enough at the famed Beaux Arts Casino to shop for a Rolls Royce while you are there, I have the perfect adventure for you. Take the #2 city bus up the mountain to the end of the line to the La Jardin Exotic Botanical Garden. Hanging off a promontory point, nearly 500 feet above the bustling tourist sites down by the harbor, this garden will give you spectacular views of the Mediterranean Sea, and the bay filled with yachts and sailboats. Gazing afar, you can see Italy. Looking below, you see the lavishly landscaped rooftop gardens of the surrounding high-rise buildings.



In 1912, Prince Albert I set aside a nearly three-acre patch of cliffside land for a botanic garden. In an article, *Five Hidden Gardens of Monaco*, by Michael Schuermann, he estimates the value of this land today at \$100 million. It is an unimaginable number to wrap your mind around, and I mention it only as a reference point to the lifestyles of the rich and famous of Monte Carlo. This is a moneyed place and if you are a gardener of a certain age, you were likely introduced to Monte Carlo via Princess Grace and James Bond movies. It can be a bit daunting to plan a day in this unique and tiny country. The garden is an unexpectedly wonderful destination.

After you feast your eyes on the amazing views, you must turn your attention to this incredible garden named "Exotic" because of the cactus, *Agaves* and succulents non-native to this area. "A large number of the plants come from a collection which started at the beginning of the 19th century in Monaco," from travels to Africa and South America with over 6,000 species tucked into the cliffside (garden signage). As you explore, you can look up, you can look down and everywhere you see breathtaking views framed by spectacular plants.

A network of winding stone pathways weaves you through, climbing and descending stairs to other levels of the garden as you pass towering spires and thickset barrels of plants. Walking through stone arches and over bridges allows you to see artfully framed views of the city. The *Aloes*, living stones, and trailing succulents, like purple heart, grow directly out of the cracks in the rock. Clumps of towering *Euphorbias*, prickly pear and *Yuccas* shade the paths like trees. A bench is framed by an arched arbor of elephant food.

Your \$10 ticket includes the Exotic Garden and a guided tour of the Observatory Caves and adjoining Museum of Prehistoric Anthropology.



The cave tour begins at a mid-level in the garden and then descends 300 steps to sea level. Heading down, the temperature cools and amazing stalactites and stalagmites creating imaginative scenes come into view. The cave is enormous and has been open to the public since the 1950's. Archaeological finds in the cave led to the creation of the Prehistoric Anthropology Museum. Long before the billionaires and rock stars lived in this region, Cro-Magnon man, elephants, hippopotami, and mammoths roamed the Riviera.

The garden is a gem of design, engineering and plant collecting, even making the list in Rae Spencer-Jones' *1001 Gardens You Must See Before You Die*. The cave and the museum are incredible additions to find in the garden, expanding the view of Monte Carlo.

My travel experience continues to confirm the best way to explore the world is through gardens, and the La Jardin Exotic's view of Monaco reinforces this belief. Plus, for a day in Monte Carlo, you can have a grand adventure with no tuxedo or designer gown required.



Lucio was born July 12, 1968 and passed away on May 20, 2018. He was an avid gardener and club member. He will be missed.

NEW SHOW AND VENDOR CHAIRS NEEDED FOR 2019 ANNUAL SHOW AND SALE

By Jo Davis

After serving as show chair with co-chair Dan Smith, we are hoping a member or members will volunteer to chair the April 2019 Annual Show and Sale. A vendor chair is also needed. Nick Diomedede has volunteered to coordinate the cash registers for 2019.

I know we have many capable members who can step-up to coordinate these two vital positions. Past chairs of both areas will happily mentor you. Remember, there are lots of volunteers that assist to make the job(s) easier.

It's important to step forward now, not at the last minute, so that advance planning can begin. Let's get it started.

Contact me, Jo Davis at: 480-839-3792 or 480-440-6590. I hope to hear from you soon.



A look at the 2018 Annual Show. Photo by Wendy Barrett.

If you have a question you'd like an expert to answer, submit questions to CACSScentralspine@gmail.com

A member asks: Where do I get started growing under lights?

When it comes to light, we should be clear on one thing: there is no better source of light than sunlight. However, for a variety of reasons, compromises must sometimes be made that force us to take our hobby indoors, away from natural light. So, with that first statement in mind, it is always my advice to seek a sunny, southern-facing windowsill



over almost any consumer-available grow light option. If this is not an option due to the layout of your indoor area or the climate of your location, you must turn to artificial lighting to supplement. Unfortunately, the majority of cacti and succulents are very light hungry. This means for an artificial light source to provide acceptable spectrum and intensity for growing, they will often be uncomfortably bright for your indoor space. You've been warned. *(Above is Ken's home set-up.)*

First, an effective grow light must provide the appropriate light spectrum to keep your plants happy. In the simplest terms, what color light does the light source produce? Plants mainly require light in the blue and red color ranges. Both are used in the photosynthesis process. Blue light promotes vegetative growth and is essential for the development of juvenile plants and seedlings. It is the type of light that prevents the stretching of a plant, known as etiolation, which is common with cactus and succulents grown indoors. Red light promotes structure growth as well as flowering. Between the two, it is best to target blue light for your indoor growing.

To understand what colors you're getting with a light source, you need to look at the color temperature of the source. This is measured in kelvin (K) and will typically range from 2700K to 6500K. At the low end of that range, a light will be warmer (more yellow) in appearance. At the high end, it will be cooler (more blue). Sunlight is around 5500K for reference. The higher the color temperature, the more blue light output there is. For this reason, I always recommend 6500K color temperature.

Next, we can address light intensity. This will typically be reported in lumens. The rule of thumb here is easy; get the highest lumen output you can find (and tolerate) in a form that fits your lighting fixture. The exception to this rule would be some rare instances of low-light plants and some of the more sensitive seedlings. In most cases, however, it is very hard to get too much brightness for your plants as even the brightest light sources available at a consumer level cannot come close to equaling the intensity of the sun. For reference, the sun is 100 to 200 times brighter than standard household lighting.

Lastly, incandescent, fluorescent, or LED? Here the choice is clear. Incandescent lights, while having good spectrum reproduction, are too energy inefficient, producing too much heat. Fluorescent lights, while more energy efficient, have relatively poor spectrum reproduction. LED solutions reign supreme at a consumer level with decent spectrum reproduction, especially in the blue color range, while offering long lifespan and high energy efficiency.

With the above in mind, I can share my personal indoor setup that I use for all of my seed propagation. Currently, I use ballast compatible T8, 6500K, 3000 lumen, LED tubes installed in custom built fixtures. However, these same bulbs can be installed in any T8 compatible fluorescent fixture. With this setup, I rarely find a plant that doesn't thrive, however, because of the cool color temperature, flowering is not common.

There is no perfect artificial lighting solution. Get online, read some reviews, pick out a light, and get to experimenting! Watch your plants closely to understand if your solution is working for them. Growing under artificial lighting will always bring compromises, but it offers a decent solution if outdoor growing is not an option.

Tristan Davis adds: I cheat and just buy the setup at Home Depot or Lowe's that says they are "grow lights."

EDUCATION GROUP

By Sue Hakala

The first meeting of the Education Group was held on May 12. Attending were Nick Diomede, Ken Luiten, Gard Roper, and Sue Hakala.

The purpose of the group is to find a way to educate all levels of members throughout the year.



From the left: Ken, Sue, Nick and Gard.

This initial meeting was to brainstorm ideas. The group will meet again June 16, at 9.m. at the DBG Whitman Conference Center, next to Webster. Tell admissions that you are attending the meeting and there is no admission charge to the garden. Please attend and share ideas. If you can't, forward ideas to CACSScentralspine@gmail.com. If you'd like a list of the ideas gathered, send a request to the same email address.

FACEBOOK UPDATE

By Thom Young

Our Central Arizona Cactus and Succulent Society (CACSS) Facebook (FB) page is an open and inclusive forum on cacti and succulents (C&S). Our FB members have many C&S photos, questions, and commentaries, along with requests for C&S IDs. The FB page membership rose to a total of 3,756 members in May. Please join the CACSS FB page by copying and pasting this url to your search engine: <https://www.facebook.com/groups/cacss2/>



Each month we feature a cactus and a succulent (non-cactus) photo posted by our FB members. June's featured cactus photo is Mike Harris' post of *Astrophytum myriostigma* in bloom. The featured succulent photo is Monte Crawford's rarely seen post of *Boophane disticha* in bloom. Thanks to Monte and Mike for posting their photos on the CACSS FB page. Facebookers keep posting!

Top: Monte Crawford's
Boophane disticha in bloom.

Mike Harris' *Astrophytum myriostigma* in bloom.



HOW'D YOU GROW THAT PLANT?

Compiled by Tom Gatz

Best Succulent Collection Award of the 2018 Show: *Conophytum* collection
Grown by Cliff Fielding

PURCHASED: Most of the plants were purchased about 12 to 21 years ago. They came from Plants for the Southwest in Tucson and Steven Hammer in Vista, CA.

POTS: The pots are a mix of ceramic and clay. The clay prevents overgrowth when given extra water.

FERTILIZER: I fertilize with 1/2 strength Miracle-Gro or other fertilizer.

POTTING MEDIUM: Typical well-draining mix without a lot of organic material.



SUN EXPOSURE: The *Conophytums* can be sensitive to full sun. In the winter they get $\frac{3}{4}$ of the day in sun under 30% shade cloth, the shade cloth is doubled in February until 110 degrees then, a third layer of 30% shade cloth is added until the intense heat ends. Then back to 30% in late November.

WATERING: I only let them get monsoon rains in the summer. The first real soaking monsoon will get a growth response from the plants. After that I will give them a very light watering every two weeks. You do not want to give them enough water to emerge from their old

leaves, that serve as protection, until the temperature drops below 80 degrees at night. Then they get regular watering to keep them plump, but not enough to make them big and split.

FROST PROTECTION: Protection is needed below 25 degrees.

HOW'D YOU GROW THAT PLANT?

Compiled by Kathy Miller

Best Advanced Cactus of the 2018 Show: *Echinocereus pacificus*
Grown by Pam Edsall

Purchased: Bought at a nursery in Kansas City around 14 or 15 years ago.



POT: It's in a Mark Muradian pot.

FERTILIZER: I use what the club sells.

POTTING MEDIUM: Black Diamond Cactus Mix with added pumice.

SUN EXPOSURE: Full sun all day long.

WATERING: Depending on the time of year, it gets water usually every 10-14 days and much less in the winter.

FROST PROTECTION: None

SPECIAL NEEDS: I haven't found any special needs as it's not real picky.

HOW'D YOU GROW THAT PLANT?

Compiled by Tom Gatz

Best Agave of the 2018 Show: *Agave victoriae-reginae*
Grown by Sue Hakala

PURCHASED: Given to me by club member Gard Roper in 2013.

POT: I find that all my Agaves prefer a plastic pot, probably because it dries more slowly.

FERTILIZER: I use the club's 10-16-38 at 1/2 strength about once a month in the warm months.



POTTING MEDIUM: It's in 1/3 cactus mix, 1/3 pumice and 1/3 perlite.

SUN EXPOSURE: It likes growing under 30% shade cloth.

WATERING: It gets water every two weeks in the large plastic pot. None in winter.

FROST PROTECTION: It spends the winter in my heated plant house.

SPECIAL NEEDS: I thought it would like a lot more sun and it took awhile for me to find its happy place. Gard checks up on it now and then.

WALLACE DESERT GARDEN MOVE UPDATE

Photos and Text by Cathy Babcock

head of horticulture at Boyce Thompson Arboretum

The Wallace Desert Garden was an estate garden located in north Scottsdale. Due to its location in a private gated community, it could never be open to the public.

H.B.Wallace passed away and then the 2008 recession hit. There were not enough funds to care for it in perpetuity.



Above, moving one of many tall plants to BTA. On the right, one of the newly planted areas at BTA.

In fall of 2014, an agreement was made between Wallace Desert Garden and Boyce Thompson Arboretum to relocate the majority of the plants to the Arboretum in Superior, 75 miles away. A massive undertaking began in 2015 to box and salvage the collection, with the last plants arriving in October 2017.



While Native Resources International took care of the boxing, BTA staff dug up and moved the smaller plants; all 3,000 of them. No small feat in itself. The second phase is no less challenging and that is to get all the plants into the ground. Phase II started at the beginning of 2018, and at the time of this writing, about half of the boxed plants have been installed. Understory plants are being added after the initial grading has been completed.

FAVORITE TOOL

By Claudia Helfgott

Having lived in Connecticut for most of my life, I found gardening in Arizona to be a challenge. I quickly learned, to be successful at planting a garden, new tools were necessary. Breaking through the caliche and rock could not be undertaken with a shovel or spade, but called for a pick axe. Now whenever I prepare to plant, the first tool I grab is my pick axe.

My second most used tool is long-handled barbecue tongs. They make handling *Opuntia* and other cactus with long spines and or glochids much easier.





Member Dick Gale submitted this photo of his gorgeous *Trichocereus* 'Argentine giant' for us to enjoy. Each blossom is about five inches across. Members are encouraged to submit medium resolution images of their plants with captions for inclusion in the newsletter, when and where possible. Email all submissions to: Editor Sue Hakala at cacsscentralspine@gmail.com.

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