



Central Spine

NEWSLETTER OF THE
CENTRAL ARIZONA CACTUS AND SUCCULENT SOCIETY

JULY 2017



Mark Dimmitt presents an article about desert orchids, Eulophia petersii, in this issue. The common form of Eulophia petersii in cultivation has brown flowers, this is a green-flowered clone.

**THERE IS NO PROGRAM THIS MONTH AS OUR CLUB IS
HOSTING THE CSSA CONVENTION.**

This article first appeared in the Tucson Cactus and Succulent Society's newsletter. It is reprinted here with the permission of the author.

I was going to subtitle this article "A Succulent Orchid," but that doesn't say much. Of the 25,000 species of *Orchidaceae* worldwide, many thousands of them are succulent. This is one of a relative few that grow in desert climates under the same culture as cacti or *Euphorbias*. Dave Grigsby, of Grigsby Cactus Gardens, used to say, "Grow it like an *Aloe*." That's pretty good advice, except that unlike most *Aloes*, this orchid should be watered in summer and rested in winter.

Eulophia petersii is one of the most desert-adapted orchids. It grows in arid habitats from Namibia all the way to the southern Arabian Peninsula. An extreme succulent, it stores water in its large pseudobulbs, thick rigid leaves, and an ample system of fleshy roots. In spring, 3- to 6-foot tall racemes bear hundreds of 1-inch brownish flowers with twisted petals.



The common form of Eulophia petersii in cultivation has brown flowers.

This species was introduced to succulent nurseries in the early 1990's when it was rare and expensive, selling for \$45 per bulb. It is now fairly easy to find.

Culture

Eulophia petersii will grow best in a deep pot that accommodates the big root system. Use a coarse, well-drained succulent mix. During the summer growing season, they can take quite a bit of water, but it's best to water only when the medium dries out, about every two weeks. They can go months without water, especially during the cool season. It is tolerant of temperatures from well over 100F to freezing. All-day sun is a

bit too much in summer; the plant will look much better in very light shade. To ensure flowering, give the plant a cool, dry winter rest. While it can tolerate down to freezing or even a few degrees below under a cover, it tends not to flower after a cold winter outdoors or in an unheated enclosure. I keep my plants in a cool greenhouse with night temperatures about 45-50F. Watering during winter also seems to inhibit flowering. I don't water my plants at all from November until March.

Plants are vigorous and will grow into large clumps that bear a dozen or more inflorescences. Repot or divide as needed; the best time is in late spring after flowering and when new growths are several inches tall. Single-bulb divisions will establish well, but three-bulb divisions will make normal-sized new growth and usually flower the very next year.

Note: Verdins and goldfinches are fond of eating the flowers. If you have many of these birds, you may want to protect the plant when it's flowering.

Other species

The genus *Eulophia* has about 300 species, many of which are xerophytic succulents with beautiful flowers. Most, unfortunately, are very difficult to find. *Eulophia speciosa* has fleshy strap-shaped leaves from underground bulbs and two-foot tall spikes of bright yellow flowers that look like flying birds. *E. orthoplectra* is similar in size and shape, but its flowers are purple on the front and yellow on the back. *E. keitii* and *E.*



The most common variety of Eulophia petersii in cultivation is this robust form with large pseudobulbs and very thick leaves. Other clones have smaller pseudobulbs and longer, more slender leaves.

leachii have non-succulent and succulent leaves, respectively, atop above-ground bulbs and one-foot spikes of small green flowers. Other species such as *E. guineensis* are herbaceous, bulbous perennials that grow in wet habitats, but also perform well outdoors in Tucson if kept well watered during the growing season.



A large specimen of Eulophia petersii in full bloom. This plant is about 6 years old from a 3-bulb division.

Editor's note: Be sure to read about an Arizona native endangered orchid and the actions that the Desert Botanical Garden is taking to save it in the latest issue of the Sonoran Quarterly (the DBG publication sent to all members).

SACRED DATURA By Scott McMahon, Cactaceae collections manager at the Desert Botanical Garden

Datura wrightii, or sacred datura, is the name of a poisonous perennial plant and ornamental flower of southwestern North America. In the United States, the plant is called jimson weed or more rarely, Jamestown weed. It got this name from the town of Jamestown, Virginia, where British soldiers consumed it while attempting to suppress Bacon's Rebellion. They spent 11 days in altered mental states. In the U.S., it is sometimes called "western Jimson weed" because of its resemblance to *Datura stramonium*. English speaking settlers in California often called it "Indian whiskey"



Datura wrightii



Datura wrightii at 19 years old in Sue Hakala's yard. One night it had 92 flowers open at the same time.



Datura stramonium

because of its ritual intoxicating use by many tribes; the name "sacred datura" has the same origin. Other common names include "Indian apple" and "nightshade" (not to be confused with *Solanum*).

VOCABULARY CORNER

Excerpted from the *Sansevieria Journal* March, 1993

- Aerial Root: A root growing above the ground which may eventually touch the ground and root.
- CAM (Crassulacean Acid Metabolism): A type of photosynthesis which open the stomata (a pore in the epidermis) to exchange oxygen for carbon dioxide at night instead of during the day. (This is what cactus and succulents do to conserve water.)
- Etiolation: The condition seen in plants grown in poor light which shows as elongated leaves (or cactus stems) and pale appearance due to abnormal chlorophyll development.
- True-to-type: Referred to in propagation as the same plant with no variations.
- Variety: An identifiable variation occurring in a plant in cultivation



*Examples of a cactus and a succulent, suffering from etiolation (the later *Graptopetalum* hybrid, submitted by Deborah Robin).*

*On the right, an example of aerial roots on a *Cereus Peruvianus monstrose* by Sue Hakala.*



SUMMER HEAT AND WATERING

By Sue Hakala

Be sure to refer to your newsletter indexes to find articles of interest. Especially timely now are the articles relating to summer watering and protection of plants. Visit the CACSS web site at centralarizonacactus.org, select newsletters, and scroll down to find the year and month you are looking for. A copy of all the indexes are kept in our library.

- *Good Growing: Summer Monsoon* by Debra Korobkin, 7/98
- *Good Growing: Sunburn* by Debra Korobkin, 6/98
- *Hot and Humid Weather and the Plants That Love it* found within Leo Martin's *From Your President* column, 9/00
- *Growing in the Heat* found within Leo Martin's *From Your President* column, 6/02
- *Plants Killed by Summer Heat* by Sue Hakala, 11/11
- *Shade Screen Project* by Steve Stempleski, 1/89, 4/89
- *Watering Cactus and Succulents During the Summer—Proceed with Caution* by Tom Gatz, 5/13

MORE TIPS

Club member and past president, plant show judge, avid birder, and all around nice guy Jim Elliott owns Arizona Cactus Sales in Chandler, AZ. Jim has been growing cactus here in the low desert for decades. He knows what works, he has to or he won't stay in business.

Visit his web site at arizonacactussales.com, choose care and tips, then scroll down to find *Watering Outdoor Cacti*. Summer (and winter) watering tips are given that will help keep your plants alive. Know that Jim says, "If you're having success, don't listen to me," as every situation is different.

**Be sure to visit CACSS on the web at:
centralarizonacactus.org the Society's web site.
Facebook Central Arizona Cactus and Succulent Society
CACSS Swap and Shop, a place to connect with members.**

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BAJA BOOJUMS

By Wendy Barrett

These are my favorite boojum pictures that I took from the Catavina area of Baja. Notice the surrounding plants.



JAMES THORNBUR Submitted by Scott McMahon, cactaceae collections manager at the Desert Botanical Garden

Professor John James Thornber (1872-1962) was professor of botany at the University of Arizona College of Agriculture for 45 years. He did some of the earliest research on native grasses and cacti.

One of the cacti in our collection, *Mammillaria thornberi*, is named after him.



SAVE \$10 ON DESERT BOTANICAL GARDEN NEW MEMBERSHIP By Holly Martinez, membership manager Desert Botanical Garden

Desert Botanical Garden is pleased to offer an ongoing discount on **new** Garden memberships for CACSS members.

Benefits of a Garden membership include:

- Unlimited year-round Garden admission
- Reciprocal admission at 300 gardens throughout North America
- Members' Only Day at Spring and Fall Plant Sales
- Discounts on event tickets, classes and gift shop purchases
- And more!

Use promo code CACSS at dbg.org or call 480-941-3517 and mention this offer to save \$10 on any level of new membership.

Cannot be combined with other offers; valid on new memberships only; offer does not expire.



Ottosen Entry Garden at the Desert Botanical Garden.

FAVORITE TOOL

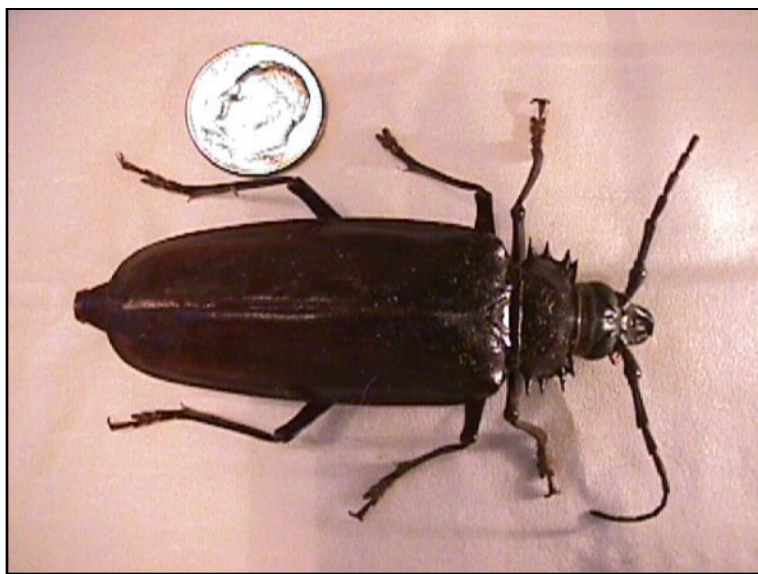
My yard has lots of caliche and the terra tiller is my favorite tool for digging holes and prying out rocks. I couldn't do anything without my trusty kneepad.
Wendy Barrett



This is a mixing tub from Home Depot that I use to mix my cactus mix with pumice. It's great because once I get it mixed up, I can set my pot right in it to fill so there is minimal mess. It is very inexpensive from \$5 to \$13 depending on size. It is typically used to mix small batches of concrete, wallpaper paste or plaster. It also has a built-in ruler on the side. I also use it for giving my plants a good bottom soak.
Beth Kirkpatrick

PALO VERDE BORER BEETLE IN THE LOW DESERT By Maricopa County Cooperative Extension Home Horticulture

When mature, the beetle resembles a 3- to 6-inch roach, but they have long antennae and a “collar” of spines on the thorax. The adults lay eggs in the soil which hatch and live underground as grubs for up to three years. Adult beetles are active in the summertime, usually in the early evening.



Grubs feed on the roots of Mexican Palo Verde and other non-native trees and shrubs. Look for branch dieback and for quarter size “exit” holes in the soil around the root zone.

Currently, there is little that can be done to control these beetles. They attack stressed trees, so the best prevention is to keep trees as healthy as possible. Turn off outside lights to avoid attracting the adults. Placing pesticides in the exit hole does little good as the

beetle is already gone. A better strategy is to focus on improving the health of the tree to help it outgrow the damage by providing adequate water and fertilizer.



Above is the mature Palo Verde borer beetle by Robert Bradley. To the right is a grub taken by Lucy Bradley.

LIBRARY NOTES

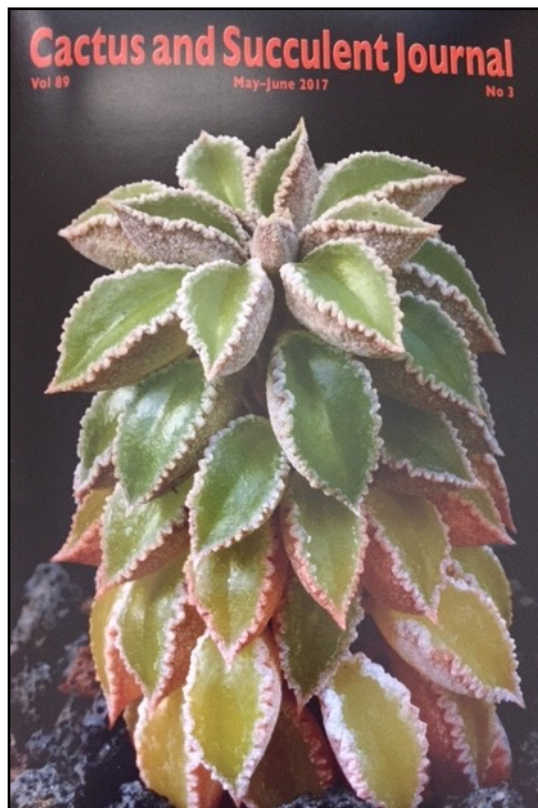
By Nancy Mumpton

The January issue of *Phoenix Home & Garden* has a very interesting article and lovely photos of our member Tom Gatz's garden. Also, our member Cathy Babcock does a monthly article called *Desert Gardening* in each issue. It is not always on cactus and succulents, but is pertinent and educational reading for all Phoenix area residents.

The library has a collection of issues that feature our members' gardens. In many of these issues, you can also enjoy Cathy's writing.

Also, in connection with our magazine collection, we have just received the May-June issue of the *Cactus and Succulent Journal* from CSSA that contains the 2017 ISI selections for sale from the Huntington Botanical Gardens. It is always fun to see what they are offering!

We also have other periodical titles (some of them no longer in print) that are located on the CACSS bookshelves in Webster Auditorium. Some titles of older issues include: *Aloe* (Succulent Society of South Africa), *Agave* (Desert Botanical Garden) and *British Cactus & Succulent Journal* (British Cactus & Succulent Society). Ask the CACSS librarians for help to get the issues.



In connection with older issues of the *Cactus and Succulent Journal*, we have a 50-year cumulative index from Volume 1, July 1929 to Volume 50, December 1978 available for researching articles on various topics. Our library has issues of this publication back to 1956 and on DVD since the first issue in 1929.

Please return your items in a timely manner. If there are extenuating circumstances, please contact Librarians Wendy Barrett (wbarrett@cox.net) or Nancy Mumpton (nancy.mumpton@gmail.com).

The CACSS Facebook (FB) page membership blew by the 3,000 member mark in June and now stands at 3,043! This is a five (5) percent increase for the month of May. Please join the CACSS FB page. Our FB page is an open forum on cacti and succulents with a variety of commentaries sprinkled in along with requests on cactus and succulent IDs as well as lots of informative posts associated to cacti and succulents. Of course, our FB page allows for the opportunity to post your favorite plant photos.

Nineteen (19) new international members joined our FB community from seven (7) countries and represent 14% of the new FB members in June. Algeria is the only first time country for June.



Succulent photo is from Dan Smith and his white Adenium in full bloom.

In June, there were plant identification requests for six (6) succulents (non-cactus) and thirteen (13) cacti, seventeen (17) of the nineteen (19) plants were identified which equates to an 89% identification success rate.

Below is a sampling of other topics and requests from our June FB page postings:

- Before you remove dead cacti, double check to make sure nobody's living there!
- *Echinocactus grusonii* outside on the patio this morning
- Great, informative video on cactus grafting!
- *Stephania erecta* which is in the *Menispermaceae* family. Is this considered a succulent?
- Tips for growing healthy succulents.
- Any advice on soil type for a potted boojum tree?
- Can someone please recommend a good shade cloth for cacti?
- Mystery solved! As suggested by of our FB member, it is crickets eating the buds on my *Chamaelobivia*.
- Can anyone recommend an ointment to take the itching out of cacti pricks?
- Scott McMahon's xeriscape oasis
- Perfect tiny potter wasp pot on this Madagascar palm spine!
- The local wildlife feasting on recently fallen mesquite beans next to a Mexican *Dioon sonorense* (cycad).
- First tragedy of the season. Went from green and healthy to dying and no recovering.
- And just when you think you've seen everything... you stumble onto a yard like this one.
- Aside from being careful, what are the best gloves for avoiding glochids?
- Added some temporary shade cloth on the west side to try and help during these

- record-breaking temperatures.
- What percent shade cloth do I need to protect our plants?
- Selecting pots for and preparing them for planting by drilling drainage holes.

Tools posted on CACSS FB page for use around Cactus and Succulents:

- Texas Ebony bean shells! WHAT?!
- 60d (6”), 70d (7”), 80d (8”), nails for tamping soil around potted succulents and cacti
- Various sizes of tongs for handling cacti
- Tweezers – all sizes up to 18” (if you can find them).

Here are the many cacti and succulents in bloom posted on our June FB page:

Adenium, Agave, Arrojadoa, Astrophytum, Caralluma, Cephalocereus, Cereus, Chamaecereus, Chamaelobivia, Cyllindropuntia, Delosperma, Dudleya, Euphorbia, Echinocereus, Echinopsis, Escobaria, Gasteria, Gymnocalycium, Harrisia, Hoodia, Huernia, Lobivia, Maihueniopsis, Mammillaria, Matucana, Notocactus (Parodia), Obregonia, Opuntia, Peniocereus, Pilosocereus, Pachycereus, Pachycormus, Pachypodium, Selenicereus, Stapelia, Tephrocactus, Trichocereus, and many more.

There were so many great photos posted on our FB page in June! These bloom photos aid in plant identifications. You will find the beautiful photos here: <https://www.facebook.com/groups/cacss2/> (copy and paste to your search engine).

To our faithful Facebookers and new folks, thank you for sharing your plant knowledge and assistance in cactus/ succulent identification as well as all of your wonderful photos posted. Each month we feature photos of a cactus and a succulent from a CACSS FB member in the Society’s newsletter *The Central Spine*. This month’s featured cactus photo is from Mike Harris of a gorgeous *Lobivia* bloom. This month’s featured succulent photo is from Dan Smith and his white *Adenium* in full bloom. Thanks to Dan and Mike for posting on the CACSS FB page.



Cactus photo is from Mike Harris of a gorgeous Lobivia bloom.

Do you have questions on the FB photos? Please contact the photographer via Central Arizona Cactus and Succulent Society FB page: <https://www.facebook.com/groups/cacss2/> (copy and paste to your search engine).

The idea for this feature in our newsletter came from Mike Gallagher with encouragement from Sue Hakala, so we are beginning this series about how club members grow those award-winning plants with plants grown by Mike and Sue. We will try to do one cactus and one other type of succulent in each article. We hope it will be helpful and perhaps give us all some new ideas to try with our plants.

DESERT BOTANICAL GARDEN BEST IN SHOW FOR ARTISTIC MERIT OF THE 2017 SHOW: *Euphorbia knuthii* grown by Mike Gallagher.

PURCHASED: Arid Lands in Tucson back when Chuck Hanson still owned it (probably in 1990's). Original plant rotted (too wet in winter), but Mike rooted several stem cuttings, including this beauty.

POT: Mike has five specimens of varying sizes. He grows them in ceramic pots as well as plastic pots. Mike cautions that ceramic seems to heat up more, requiring more attention to regular watering.

FERTILIZER: Mike fertilizes about 3 or 4 times a year, or when he remembers to, using the product sold by the club (10-16-38) but at about 1/6th full strength.

SOIL: Three parts pumice, 2 parts small stones, 1 part coarse sand, 3 parts commercial potting soil, and one part coffee grounds. Mike says that the coffee grounds are a good, organic source of nitrogen and it may help acidify our alkaline soil. (Also, it's because his wife won't let him throw the coffee grounds away.)

SUN EXPOSURE: It varies. The show plant has been grown in full sun, year-round. Others do fine under 50% shade cloth.

WATERING: At least weekly when growing and in hot weather; holding off a little during summer monsoons and increased humidity. Taper off watering at end of October. No water December through February. Beginning in March, random watering "depending upon his mood" (says Mike), with regular watering resuming about mid-May.

FROST SENSITIVITY: Reasonably frost tolerant for a *Euphorbia*, unprotected down to 28 degrees, but covered with a frost blanket below that.



SPECIAL NEEDS: To prevent rotting from winter precipitation, Mike brings them under overhead protection (porch or lath house) when winter rains are predicted and keeps them bone dry. Otherwise they grow well in full sun.

BEST CACTUS OF THE 2017 SHOW: *Parodia scopa* sb. *murielle* grown by Sue Hakala

PURCHASED: Bach's in Tucson in 2008.

POT: Clay, as this plant can rot easily.

FERTILIZER: I use the one the club sells, 10-16-38, at half strength in the spring into early summer.

SOIL: Four parts Black Gold, 4 parts pumice, 3 parts perlite as the pots have gotten bigger.



SUN EXPOSURE:

Summer and winter it lives on the top shelf behind 50% sunscreen under a corrugated fiberglass roof.

WATERING: It can be tricky as it's now in a 14" pot. I water it every 10-14 days in the summer. If it's very humid, I don't water at all. I keep it out of rain since it rotted quite a bit after one storm. When nights are consistently below 50, I stop watering. I acidify my water (1 tablespoon white vinegar

to 5 gallons water) for two waterings, then flush with plain water 3 times through the third watering. This alone has made a huge difference in its health and happiness.

SPECIAL NEEDS: *Muriellie* comes in on nights over 90 degrees. I wrap my plant house with heavy plastic in the winter with a night heater—she likes that.

The CSSA convention is almost here and we are expecting about 300 people, which is a very nice turnout. There was some concern that the heat in July might affect attendance, but it has not and we are very happy about that. The reason we held the convention in July is hotel pricing is so much less than in our milder months, but the trade-off is the heat. Fortunately, other than the tours, which are getting off early in the morning on Thursday, all of the convention activities are in the air-conditioning at the beautiful Tempe Mission Palms Hotel.

We still have a few volunteer positions that need to be filled, so you can click on this link and sign up <http://signup.com/go/ppmbfPs>. If you are not a registrant or a volunteer you can still support the convention by attending the sale where many vendors will be selling unusual plants, pots, books and jewelry. The sale runs Friday, July 28, 7 a.m. to 5 p.m., Saturday, July 29, 8 a.m. to 5 p.m. and Sunday, July 30, 8 a.m. to 4 p.m. The hotel is only ½ block from the light rail stop in downtown Tempe, so it's easy in easy out. The back door entrance to the hotel closet to the light rail is right behind Rula Bula pub. You can also valet park and tell them you are going to the convention.

Diana Crummey, our program chair, and her team have done a wonderful job getting us interesting speakers and programs. Diana and her team are retiring from this position at the end of the year and we need to get a new team in place now to work on programs for next year. If you are interested in being a part of this team, please contact me bethalia@gmail.com or call me at 480-275-4833.

We also need a new Webmaster. I have been doing this job for the last five years and would like to give someone else an opportunity to work on the website. The website needs to be enhanced and given some new capability which is beyond my skill set. The person who takes this on would need to know or learn Wordpress. If you are interested in supporting the activities of the society in this manner, please contact me.

Well, I'm done begging for help! I hope to see all of you at the convention.

Next newsletter issue submission deadline is **August 5**, 2017. 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.
