Join Jon Rebman for our program on September 24, in Dorrance Hall at the Desert Botanical Garden. He will be discussing the amazing and diverse plants found in Baja California Sur including Opuntia comonduensis, shown here. Photo by Jon.
Botanical surveys and collecting expeditions in Baja California are important scientific endeavors that are conducted in order to improve our natural history knowledge of little-known regions, make new botany discoveries, facilitate conservation awareness, and improve bi-national collaboration. Over the last couple of years, Dr. Rebman has been involved in various scientific expeditions to remote parts of the Baja California region and its’ adjacent islands. He also lived in La Paz for 10 months from August 2015 to June 2016, on a remote work assignment for the San Diego Natural History Museum. During this time and on these trips, some significant botanical discoveries have been made. In this presentation, he will discuss these natural history expeditions, elaborate on the plant discoveries made, new species encountered, and connect how they relate to improving our knowledge of the flora as a whole.

The state of Baja California Sur (BCS) supports a wealth of species diversity in many different plant families. It is estimated that the flora of the state consists of approximately 2,200 plant taxa of which almost 600 (27%) are known only from ( endemic to) the region. Many of the plants from the region are distinctive, beautiful, and stretch the imagination in respect to plant form and structure. For example, the creeping devil (Stenocereus eruca), Cochemiea halei, Morangaya pensilis, recently described elephant trees (Bursera spp.), tree yuccas (Yucca valida), succulent bromeliads (Hectia montana), and much more of the fantastic flora of the BCS will be discussed. With more than 300 succulent plant taxa present on the peninsula and adjacent islands and a rather high rate of endemism, the cacti and succulents of the Baja California region are conspicuous and a truly unique part of the peninsula’s natural history.

Come join us on a botanical adventure in this presentation to better understand the amazing and diverse plants found in Baja California Sur.
From Diana Crummey, program chair

S. H. (Sy) Sohmer, executive director of the Boyce Thompson Arboretum, will be speaking for 15 minutes to make people aware that BTA still needs money to plant the enormous collection it received from the Wallace Desert Garden. This is an overwhelming task that people really don’t realize until they see it. Sometimes, a wealth of riches, such as the Wallace Collection, creates unforeseen problems.

Next newsletter issue submission deadline is **October 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.
In 1839, Charles Lemaire described *Astrophytum*. The name *Astrophytum* is derived from the Greek aster, "star" and phyton, "plant." Lemaire described the genus from a specimen of *A. myriostigma* from northern Mexico.

Britton and Rose listed four *Astrophytum* species in the second edition of *The Cactaceae* in 1937. Sixty-four years later, Edward Anderson's *The Cactus Family* also listed the same four species. In 2006, in *The New Cactus Lexicon*, David Hunt listed six species. The two additional species were *A. caput-medusae* and *A. caohuilense*. Depending on whether you are a lumper or a splitter, you could own hundreds of species with no two plants looking exactly alike.

With one exception, *Astrophytums* are solitary, globose to columnar and green. One feature that really sets this genus apart from most others is an often-dense covering of fine, white tufts of trichomes (small hairs). The presence of these trichomes may aid in the collection of water or possibly helps protect the plants from the sun. Whatever its purpose, this feature certainly adds to the popularity of the genus.

*Astrophytums* are found from northern Mexico to southern Texas. The plants have 3 to 10 ribs. Spines may be absent or present and variable. *Astrophytums* generally flower in the summer over a period of several weeks. All species have similar flowers which are borne at the stem tips and open during the day. The blooms are large, funnel-shaped and yellow, or yellow with red throats.

The exception to the above description is *A. caput-medusae*. This oddity is from Nuevo Leon and has elongated, short-lived tubercles from a tuberous rootstock. This plant demonstrates geophytism coupled with the elongation of the tubercles to serve as succulent "leaves." This is paralleled in a less striking way in *Ariocarpus* (*A. agavoides*) and by *Leuchtenbergia principis*. 

*Astrophytum myriostigma* by Lauren Marks.
Whether you prefer the more globular style like A. asterias or the columnar shape like A. capricorne, A. coahuilense, A. myriostigma, or A. ornatum, these plants are impressive. You can obtain smaller plants of most species for very reasonable prices. You can also spend a small fortune for some of the more bizarre plants bred for their unique shapes, textures, and patterns of trichomes. Beautiful examples of most of these species can also be found as variegated plants, with many of these at reasonable prices.

Certainly the most rare Astrophytum in cultivation and available for purchase is A. caput-medusae. When this plant is available, you will most often find it grafted.

With all species, you should consider a well-draining soil mixture. Careful and frugal feeding and years of patience will reward you with hard-grown, compact plants. No cactus collection is complete without one or two representative Astrophytums.

Scott McMahon, cactaceae collections manager at the Desert Botanical Garden gives advice on growing these plants in the low desert.

“I've been growing Astrophytums in pots and in the ground both at home and at the DBG. The only one I've had trouble with is A. asterias as far as handling the heat here. A. ornatum, capricorne, and myriostigma can be grown if given some filtered light in the summer. If there is too much shade, they will bend toward the light, and when they get taller there is a chance of falling over. We have two small A. caput-medusae in the collection that have nice tubers, but are slow growing. I think A. myriostigma is the toughest here.”

Visit the CACSS web site and the newsletter archive for more articles on growing Astrophytum:
• Astrophytum found within Plant of the Month (no author), 2/89
• Astrophytums by Beryl Niles, 1/93
Now that the convention is over and we have all had a good rest, it is time to start thinking about officers and board members for next year. Mike Gallagher has agreed to chair the Nominating Committee with Cindy Capek and Wendy Barrett joining him. If you are interested in a board or officer position, please contact one of them. If they approach you about a position, please say YES!

I continue to seek a Program Coordinator for next year and a Webmaster. The first three programs have already been arranged, but we need someone to chair a committee to arrange the programs for the rest of the year. If you are interested in either of these positions, please contact me.

Volunteerism is the lifeblood of an organization like ours. We have no paid staff, so to be successful we rely on the work of our wonderful volunteers. There are many benefits to volunteering. It is an opportunity to make a difference, know fellow members better, make new friends, be part of a community, use the skills you have or learn new skills, and have fun! Consider saying yes, if asked!

DBG PLANT SALE  By Scott McMahon, DBG cactaceae collections manager

Dear CACSS plant people! The DBG needs your help at our Fall Plant Sale! The sale will be Friday, Saturday, and Sunday, October 20-22. The Horticulture staff needs volunteers to help people find plants, give growing tips, and to assist them in making the right choices, especially when it comes to cacti and other succulents. Many of you have done this in the past, and we always look forward to seeing you. If you’re new to this and would like to help, you don’t have to be an expert on cacti and succulents to make a difference.

Our staff gets overwhelmed during the opening hours, and assisting customers in any way possible takes a lot of pressure off us! Our busiest times are at opening on Friday and Saturday at 7 a.m., but you are welcome anytime you are available. Just show up and head for the volunteer check-in tent at the far end of the lot, and remember to wear your CACSS badge!

Be prepared for sun exposure, and bring a water bottle, although we will have water throughout the lot also. Garden members and all of you volunteers get a 10% discount on plants, but not on items sold by the other venders. This is a chance for you to do some research and shopping for yourselves since we will have the equivalent of several nurseries here in one location. You might even find some Copiapoa! Thanks!
PEG POINTS: The Latest from the Propagation Education Group  
Photos and Text By Tristan Davis

2017 CSSA Convention PEG Seedling Propagation Project

The July CSSA convention was a huge success and the propagated seedling gifts, grown by the PEG participants were a big hit with members. All in all, PEG members grew and donated over 250 seedlings for convention attendees. Seedlings donated were AZ native species and included, *Agave toumeyana var. bella*, *Bursera microphylla*, *Ferocactus emoryi*, *Peniocereus greggii*, *Echinocereus rigidissimus*, and *Mammillaria grahamii*.

This effort was started almost two years ago by PEG members as a way to educate and encourage CACSS members to grow cacti and succulents from seed and to demonstrate to CSSA members how the mission of the Society impacts local chapters.

Many members participated in the effort, so I wanted to thank all who dedicated their time and seedlings to make the project such a huge success. In particular, I would like to thank the following:

- Doug Dawson donated many of the seeds that the members grew and held several seed-growing workshops hosted at his home to get members started. Without his help to get the project kicked off, as well as his encouragement and knowledge-sharing throughout, none of this would have been possible.

- Nicky Davis spent hours creating the informative labels for the plant sticks and pots that informed convention goers of not only the plant names, but also credited the CACSS and PEG. She also helped deliver the plants, hosted the give-away tables, and helped ensure everyone got at least one plant. Additionally, she spent many more hours putting together seed packets of *Ferocactus wislizeni* for additional giveaways, complete with labels and clever stamp impressions of a barrel cactus.

Several members also attended a PEG potting party at my house earlier this year to get all the seedlings potted with the same mix, pots, and top dressing. Lots of work went into that day, but fun was had by all! Members assisting included, Jo Davis, Cliff Fielding, Doug Dawson, Nancy Mumpton, Lois Schneberger, and Dean Patrick.

I also wish to thank the members that assisted with the quick loading, unloading, counting, arranging, and other tasks associated with the actual arrival and distribution of the plants at the convention. These members included, Cindy Capek, Sophie Church, Nicky Davis and Chris Ginkel.
And, finally, thanks to all those members that attempted to grow seedlings for this project. I hope that even if you were not successful, you still had fun and learned a lot. That, after all, was what we were hoping for!

PEG September Meeting Topic: Outstanding Ocotillos

If you read the March 2017 CACSS newsletter article about ocotillos, you now know there are no fewer than 11 species of ocotillos that you can grow in your own collection.

The next meeting of the Propagation Education Group (PEG) is Saturday, September 16, from 9 a.m.-11 a.m. at the Webster Building at the Desert Botanical Garden. We will discuss members of the genus *Fouquieria* and talk about how they can be propagated:

- What are the tricks to getting them to root?
- Are there some species easier than others?
- Can they handle heat like we’ve had recently?

We will have cuttings of several species available for members to attempt to root on their own as well as seeds that you can try.
to grow on your own (Hint: they are SUPER EASY to sprout!). We'll also demonstrate how you can create your own seeds by cross-pollinating plants.

So, don't miss out and come on down to the garden and learn all you can about this amazing group of plants.

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**Fouquieria burragaei**

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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.
Rita Gosnell bought this *Cereus childsii* at Bach’s in Tucson. It’s a stunner. Thanks for sharing your plant. Members are encouraged to submit photos of their plants with captions for inclusion in the newsletter.

Email them to: CACSScentralspine@gmail.com.
FAVORITE TOOLS

The beauty of the Agave is as great as the detriment to cleaning them. As we are aware, most have vicious terminal spines and strong fiber (sisal) in their leaves which require a very sharp blade to separate them from the plant. These adjustable razors work the best. They are readily available from your local hardware store, are inexpensive, easy to find and replace. When trimming larger Agaves, I always remove the terminal spines and slice the leaves about half way back for added room. Remember to always protect yourself with goggles and gloves and disinfect your blades with alcohol after use. Nick Diomede

Every time I go to a Chinese restaurant, I make everyone save their wooden chopsticks for me. I use them constantly. Since I have many plants in smaller size pots, I repot often and use my chopsticks in so many ways. I push the plant out by sticking a chopstick in the pot drainage holes to loosen it. After I repot the plant, I use the bigger end to gently push soil into the sides of the plant and tamp it down. I also use the stick to move around the small stones that cover the soil and to get stones under the leaves and close to the plant stems. The point of the chopstick is perfect for removing tiny stones or debris that get down into my plants. Nancy Mumpton
Many of you may recognize Diana Crummey as the gracious lady who introduces each month’s guest speaker. This year marks her third and last year as speaker chair and arranging for speakers to present at the CACSS monthly meeting. The speakers are selected by a committee. Included are members Cathy Babcock, Chuck Brush and Lee Brownson. Diana also makes sure information about each speaker is sent to our Newsletter Editor, Sue Hakala and Facebook Editor, Dan Smith.

One of Diana’s highlights as speaker chair has been getting to know a variety of plant collectors and curators from around the world. Over the past three years, she has organized CACSS tours, (with help from Cathy Babcock, BTA Directors Mark Siegwarth and Sy Sohmer, plus tour guides, Derek Lopez and Jeff Payne) to see the massive move of 6,000 plants from the Wallace Garden in North Scottsdale to Boyce Thompson Arboretum in Superior. Seeing the process and upkeep of gardens at Boyce Thompson, as well as transferring the Wallace Garden, has been astounding.

Born in South Africa, Diana was educated at St. Michael's School, Bloemfontein, Orange Free State. She has lived in Arizona for the past 20 years. She goes back to South Africa regularly to visit family living in Johannesburg, Pretoria, Cape Town, Port Elizabeth, and Nelspruit. Many of Diana’s favorite gardening adventures have been on her trips to South Africa. She has visited many world class Aloe curators, collectors, farms, and taken bush hikes in the countries of Swaziland, Lesotho, Namibia and South Africa. The variety of Aloe growing naturally in the veld was a real eye-opener to Diana.

Visits to Boyce Thompson Arboretum, DBG, Tucson, the Huntington Botanical Gardens and LotusLand in California, and Fairchild Tropical Botanic Gardens in Florida round out her list of favorite gardening trips.

Diana’s favorite plants are Aloe because they are easy to grow and have such a variety of blooms. She thought it would be nice to collect an Aloe or two after being introduced to them by club members Chad Davis, Cathy Babcock and Gard Roper. Five short years later, her home collection has grown to 85 varieties that grow in her small garden. While the cramped growing conditions may be less than ideal, Diana admits to having succumbed to collector’s “disease.”

Puttering around her garden, surrounded by beautiful flowers of different varieties of Aloe, is Diana’s idea of bliss. Current favorites include: several Aloe cultivars by Karen Zimmerman, the magnificent series of South African hybrid ‘Sunbird Aloes’ by Leo Thamm, and the hybrid Aloe ‘David Verity’ by David Verity, a plant propagator from
California. Diana especially enjoys their fantastic display and variety of color when blooming.

*The Vegetation of Southern Africa* has been a favorite reference book of Diana’s. She says it is full of fantastic information. Her go-to places to answer any gardening problems are the DBG library and fellow CACSS members.

While Diana enjoys listening to speakers at club meetings and traveling to different nurseries on trips planned by our group, her favorite part of belonging to the Society has been our members who readily share their knowledge and love of plants.

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**LIBRARY NOTES**  
*By Librarian Nancy Mumpton*

If you are interested in reading some articles and books associated with our recent speakers, we have the following items in our library collection:

From the August program on *Copiapoa*:
- Schulz, Rudolf & Attila Kapitany, *Copiapoa In Their Environment*, 1996

From the September program on Baja:
HOW'D YOU GROW THAT PLANT?  

**Euphorbia decaryi v. guillminiana**  
Chairperson’s Special Succulent Award of 2017 Show  
Grown by Loran Rodewald  

PURCHASED: About 10 years ago from Plants for the Southwest in Tucson. Loran says it was less than 3 inches tall; now it has grown to 2 ½ feet wide. He was attracted to its unique shape. He said that while it looks delicate, it is actually a tough plant.

POT: Loran prefers ceramic decorative pots and has found that this plant does well in them. He pots it up every 2 to 3 years in the spring. If a piece breaks off, it is easily rooted in pumice.

FERTILIZER: He feeds it about twice a year with the 10-16-38 fertilizer sold by our club. He also fertilizes it when it begins to flower in April with a “Bloom Booster.” The flowers are violet/purple and look like inverted church bells.

POTTING MEDIUM: He uses a light cactus mix with pumice to provide good drainage.

SUN EXPOSURE: Loran protects it on his patio with 4-inch louvered-lath aluminum awning that gives it about 50% sun in the spring, summer and fall.

WATERING: Every three or four days in the summer; he cuts back in the spring, in the fall and when it is humid. Then every 10 days in the winter.

FROST PROTECTION: The leaves turn a nice deep red outside by late November. Once temperatures drop to 40 degrees, he brings it into the house by a sunny window for the winter, where the leaves green-up again. It goes back outside in early March.

SPECIAL NEEDS: Because it has grown so large, he transports it on an elevated plant stand with wheels. This allows him to water it indoors with a pan underneath to catch the drainage. The roots tend to adhere to the pot so it can require two people to remove it for transplanting. It likes the humidity during the monsoon.
*Epithelantha micromeris v. greggii*
Chairperson's Special Award for Cactus of 2017 Show
Grown by Steve Plath

PURCHASED: Steve bought this little beauty so long ago (about 25 years) that he no longer remembers where he acquired it. It was really tiny then and it is slow-growing. He really likes its uniformity, its sculptural nature and the fine texture of its spines.

POT: It has been in the same ceramic pot for a while and Steve plans to pot it up in the near future.

FERTILIZER: Steve uses Peter’s 10-30-20 at half strength once a month during the summer.

POTTING MEDIUM: Steve’s not certain of his exact mix 25 years ago (who would be?) but now, for something like this, he would use 40% cinder sand, 10% Grow-Well blended organic mix, and 50% perlite/pumice.

SUN EXPOSURE: 50% shade.

WATERING: Weekly during the growing season and not at all in the winter.

FROST PROTECTION: Steve doesn’t think it is necessary for this species, but he likes to bring all of his show-quality plants into the greenhouse in the winter, including this one.

SPECIAL NEEDS: He says this species is almost care-free with one major exception. He had a companion plant damaged by chewing rodents. Now, to protect his more vulnerable specimens from climbing rodents, he places the plants on an over-turned cafeteria tray that extends beyond the edges of the small table underneath it. The down-turned lip of the inverted tray prevents the rodents from accessing the top (genius!).

*Photos by Sue Hakala*
The annual extravaganza of succulent extremism, otherwise known as our October Silent Auction, will be held on Sunday, October 29, 2 p.m. Everyone is welcome to attend and bid, including non-members. Former roller derby participants and mixed martial arts competitors are banned due to some previous incidents involving extreme forms of getting in the last bid.

In a change from previous years, we will be holding the auction in Dorrance Hall (just like our monthly meetings), so outdoor temperatures should not be an issue.

We are looking forward to members having a wide variety of material for the auction. We will be accepting live plant material (potted plants, cuttings and bare root offsets), decorative pottery, seeds, botanical literature, art, and yard art (tasteful please—no pots of the president with a *Beaucarnea recurvata* growing from the top of his head). A bid sheet is required for each item donated. The sheets will be available for download from our website, at the September meeting, and on the day of the auction. We do encourage that they get filled out before auction day.

We will again be having a regular live auction of special plants and selected items beginning at 2 p.m., followed by the silent auction segment. Dorrance Hall will be open from at least noon (maybe earlier) to allow for drop off of items.

We look forward to a great turnout and lots of interesting plants and items.

It’s time to stop trying to like things you don’t like. Bring those items and plants to the auction. Someone else will love and give your things a new home.
The Central Arizona Cactus and Succulent Society (CACSS) Facebook (FB) page membership in August totals 3,140. Our growth was slowed a little by summer vacations. This is a one (1) percent increase for the month of July. Please join the CACSS FB page. Our FB page is an open forum on cacti and succulents (C&S) with a variety of commentaries sprinkled in and requests for cactus and succulent IDs. Our page has many informative posts associated with all aspects of growing C&S. Our FB page is an opportunity to post your favorite plant photos and ask questions.

The following are the different C&S in flower posted on our FB page in August: Adenium, Astrophytum, Cereus, Chamaecereus, Chamaelobivia, Cleistocactus, Copiapoa, Cordia, Echinocereus, Echinopsis, Ferocactus, Gymnocalycium, Loxanthocereus, Lobivia, Lophophora, Mammillaria, Opuntia, Pilocereus, Pterocactus, Rebutia, Selenicereus, Stapelia, and Thelocactus. The photos of our plants in flower are of great assistance in plant identification. You can find the beautiful photos here: https://www.facebook.com/groups/cacss2/ (copy and paste to your search engine).

Each month we feature photos from our FB members. This month’s featured cactus photo is Veronika Countryman’s photo of a sampler of Opuntia fruit from her yard.

Again, thanks to all CACSS members who posted and/or joined the CACSS FB page in August. We have room for many more CACSS members. CACSS are now a minority on the FB page. So, please take the time to become a member of the CACSS FB page. There is no charge and it is very easy to access, enjoy and participate in our FB page. You can find us on FB @ Central Arizona Cactus and Succulent Society. We would love to see your cacti and succulent photos and answer any questions you may have. Please contribute today!

Veronika Countryman’s cactus photo of sampler Opuntia fruit from her yard.
SPECIALISTS TO CONTACT WITH QUESTIONS

- **Nicky Davis**  
nicky.davis4@gmail.com  
*Manages the Seed Depot.*

- **Tristan Davis**  
480-540-9540 | minime8484@hotmail.com  
*Specializations include plant propagation, and heading PEG (Propagation Education Group).*

- **Doug Dawson**  
480-893-1207 | dawsonlithops@hotmail.com  
*Specializations include growing from seed, flora of Namibia, Lithops, other Mesembs, Melocactus, and miniature cacti and succulents of Arizona.*

- **Mike Gallagher**  
602-942-8580 | mgallagher26@cox.net  
*Specializations include Aloes, Haworthias, columnar cacti, and Turbinicarpus.*

- **Chris Ginkel**  
602-908-2664 | chrisginkel@gmail.com  
*Manages the CACSS Swap and Shop page on Facebook.*

- **Dean Patrick**  
480-759-0312 | desertpatrick@cox.net  
*Specializations in softwood stem-cuttings, plant division and seed starting, rooting cacti, Agave and Aloe.*

- **Steve Plath**  
623-238-3342 | sbotanica@inreach.com  
*Specializations include general propagation and desert revegetation, Ariocarpus, Astrophytum, Cyphostemma, Echinocereus, Fouquieria, and Thelocactus.*

- **Dan Smith**  
480-981-9648 | smithdans@outlet.com  
*Specializes in Adenium, raising Adeniums from seed, grafting and Adenium culture in general, and co-manages the Facebook page.*

- **Bob Torrest**  
480-994-3868 | robertst9114@msn.com  
*Specializations include desert landscaping, unusual (including rare fruit) trees and shrubs, Aloes, Agaves, and columnar cacti.*

- **Thom Young**  
480-460-0782 | te.77@q.com  
*Co-manages the CACSS Facebook page.*
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