

VOLUME 58 • NUMBER 08 • AUGUST 2023



ESPINAS Y FLORES



**FLOWERING STRUCTURES OF THE GENUS EUPHORBIA
JULY BRAG TABLE RESULTS • UPCOMING EVENTS & more!**

**NEWSLETTER OF THE SAN DIEGO CACTUS & SUCCULENT SOCIETY
AN AFFILIATE OF THE CACTUS AND SUCCULENT SOCIETY OF AMERICA**



ON THE COVER
Euphorbia godana in flower
 Photo by Jared Petker

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SDCSS SCHEDULE

Our next in-person meeting:
August 12th

Upcoming meeting:
September 9th

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PRESIDENT'S MESSAGE

Greetings! Finally getting some very warm weather following our interminable foggy Spring. Succulents are growing and blooming like crazy fueled by the Winter rains. Great time to propagate!

It was wonderful to see so many of you at the July meeting! and what a wonderful meeting it was. There was a nice group of vendors offering plants and pottery - I picked up a bunch of treasures to take home.

There was an impressive group of plants on the Brag table, which our speaker, Tom DeMerritt, did a fine job of judging - always something to learn from the judges. Dean Karras of Gnosis Nursery, and a member of our Board, gave a very informative Plant of the Month talk on Ferocactus - always more to learn about this species with genus native to our local canyons and mountains as well as some great pics from Baja.



It was great to have Tom back sharing his vast knowledge and experiences-his talk on Socotra did not disappoint. Thanks for being there Tom! A fun thing happened at this meeting - we had in attendance 6 former presidents of SDCSS - back to Joey Betzler who was president when I joined in the 90's! Fun reunion.

On a sadder note we learned that Michelle Heckathorn, our master of the Plant Exchange and long time member, lost her dear mother just before our June show. Debra had been a fixture at meetings and Holiday Parties for years. Condolences for your loss Michelle.

During the meeting we provided a little overview of the rest of the year as there are some different events-mark your calendars:

- **August 12** will be a regular meeting- bring you brag plants and some treats for the break.
- **September 9** will be an abbreviated meeting as we do not have access to room 101 - our **meeting will be in room 104** starting at 1 PM. The Bromeliad Society meets in 104 until noon so there will be no pre-meeting activities. We will be having a **Brag Table** so bring your beauties to show off and win some plant bucks. There will be a **Plant of the Month** talk and a very special main speaker - new to our club. So make your plans to get to the park early - visit the gardens, or the Zoo, have a nice lunch and join us at 1 in room 104. No plant exchange, drawing, sales or break. We will have water available, no snacks.
- **October 14** will be a regular meeting in room 101.
- **November 11**, the park is closed for Veteran's Day. Back by popular demand we will have a **Nursery Crawl!** Stay tuned for details and participating Nurseries.
- **December 9** is our ever popular **Holiday Party** - make your reservation at the October meeting!

Thanks for being a part of this exciting organization - hope to see you at upcoming events - come up and say hi.

Pam Badger

August 22, 2023

SDCSS AUGUST SPEAKER



Join us **Saturday, August 12th** for our awesome guest speaker: **Brian Kemble: “Mesembs at the Ruth Bancroft Garden.”**

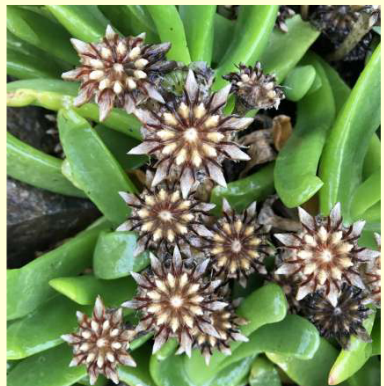
Our Speaker Topic: The mesembs are well known for their dazzling flowers and also for how cryptic they can be when not in flower, since some of them can mimic the stones among which they grow. They range from tiny to bush-sized, but never larger than this. Some spread out in the fashion of a ground-cover, while others stay in a tight clump, or even are reduced to a single pair of fleshy leaves.

As one might expect from such a large group of plants, the mesembs range from common to rare and endangered, and there are hundreds of species which have never found their way into horticulture. In some

cases, this is because they are difficult to keep alive, or are not considered horticulturally desirable, but in many other cases they simply haven't been tried. At the Ruth Bancroft Garden, we have been on the lookout for new species, and over the last decade or so quite a few of these have been incorporated into our plantings, taking their place alongside others which have been there from the beginning in 1972. This talk will look into the various mesembs which we have grown at the garden, highlighting their beautiful flowers and their growing habits.

One of the most popular groups among mesemb collectors is Lithops, commonly called “living stones”. Although these are truly “plant jewels”, they have very specific watering needs, and most will not survive our wet California winters if planted outdoors. These will get only a passing mention in the talk, while other less-known groups such as Cephalophyllum and Cheiridopsis will get much more attention, since they have proved successful here. We will look at over 100 species and cultivars belonging to 42 genera. A few of the photos are of greenhouse-grown plants, but the great majority are of plants in the garden.

About Our Speaker: Brian Kemble is the Curator at the Ruth Bancroft Garden and has worked there since 1980. He is also the VP of the San Francisco Succulent & Cactus Society, and a past board member of the Cactus & Succulent Society of America. He has been to southern Africa on numerous trips to see mesembs in habitat, along with aloes and a host of other succulents.



**See you at the
August 12th meeting!**

MEMBER SECTION

San Diego Carnivorous Plant Society
10th Anniversary

CARNIVOROUS PLANT SHOW + SALE



Show Sponsor
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Show Sponsor

Saturday August 5, 10am - 5pm
Sunday August 6, 10am - 4pm

Balboa Park
Casa del Prado
Room 101

<https://www.facebook.com/events/808588677144673/>



EXCITING OPPORTUNITY!

Did you enjoy our June Show and Sale? Are you ready to step up and take a more active role? **Chris Miller**, our VP and Chairperson of the Sale, is looking for an assistant / trainee. Chris has been running the sale for 20 years and has it down to a science, which is why our sales go so smoothly. She is looking for someone to train and begin learning this position. Chris is a great mentor and is looking for someone with good organizational and people skills to eventually take over and carry on for a few years.

If interested, please contact

Chris: c.miller@cox.net

PLANT OF THE MONTH FEATURE



FLOWERING STRUCTURES OF THE GENUS EUPHORBIA

A GENTLE GUIDE FOR BEGINNERS

by JARED PETKER

Euphorbia genoudiana is a Madagascan *E. milli*-like thorny shrub. *E. genoudiana* is sometimes confused with *Euphorbia gottlebei*, but is distinguished from *E. gottlebei* due its green cyathophylls (compared to the red cyathophylls of *E. gottlebei*).

Jared Petker

My first *Euphorbia* ever was *Euphorbia genoudiana*—quite the handsome little Madagascan spiny shrub. I was fascinated by its little green flowers spread out from its dainty flower stalks, clustered in pairs of 2 and 4, with sun-kissed petal tips and a ruby red center. I'd see a set of 3 little green sticks poking out of the center of the flower, and after a few days, followed by some more sticks with yellow dusty tops surrounding the initial cluster of 3. After a bit more time passed, I'd see these three-lobed, green, and trapezoid-esque fruits springing out of the center of the flowers. Finally, the little fruits would dry out and fling seeds in every direction. This went on for a while through late spring, and I soon learned that those stunning green petals weren't really petals, the dainty flower stalks leading up to them weren't actually flower stalks, and well, the flowers weren't flowers either. It was a lot to take in.

PLANT OF THE MONTH FEATURE

WHERE THERE ARE EUPHORBIA, THERE ARE CYATHIA!

We all have at least one Euphorbia in our collection. If you're like me, you started hoarding them left and right after your first one. And if you've begun to collect even a few of the thousands of species of Euphorbia, then you've likely discovered the morphological variance within the genus to be one of its most fascinating and enthralling qualities. Euphorbia can be spiny, spherical, tree-like, blue, columnar, smooth, green, clumping, medusoid-shaped, shrub-like, a mix of several of these traits, and more!

Euphorbia have even found a way to display as much variation and unique features in their flowering structures. They contain a flowering system that is not found anywhere else within the plant kingdom in its cup-like structure known as a "cyathium". What we see in the pentagon-like shaped purple structures and painted yellow centers below of *Euphorbia horrida* are in fact a crown of cyathia (plural for cyathium). And what are those little specks of bright yellow? Yeah, those are the flowers (in this case, male flowers)!



Euphorbia horrida is a large clumping South African plant with many varieties found in habitat, and hybridized heavily in cultivation. *E. horrida* is dioecious and requires a male and female plant for pollination, and is very easily hybridized with other similar dioecious species of Euphorbia. I've personally had success hybridizing *E. horrida* with *Euphorbia polygona*, *Euphorbia meloformis*, and *Euphorbia tubiglans*.

Jared Petker

PLANT OF THE MONTH FEATURE

These two bits of information are all we need to understand why Euphorbia flowering parts are unique. Euphorbia have reduced their flowers down to a miniscule size and have developed a “false-flower” (also known as a pseudanthium) in the form of the aforementioned cyathium. Before diving into all the pretty pictures of cyathia spanning across the genus Euphorbia, let’s delve a bit deeper into the cyathium itself and learn more about this unique structure.

In the diagram, we see a vertical cross-section of a Euphorbia cyathium. At the base of the cyathium we see the involucre, a cup-like structure, surrounded by some cyathophylls. The cyathophylls can look like the petals of a standard flower but are actually modified leaves, and provide a superficially showy appearance for many species of Euphorbia. In the photo of *Euphorbia spirosticha* (formerly *Euphorbia decaryi* var. *spirosticha*) below, we can see the hidden involucre is surrounded by a pair of pointy, triangular(deltoid?)-shaped, light pinkish-tan cyathophylls.

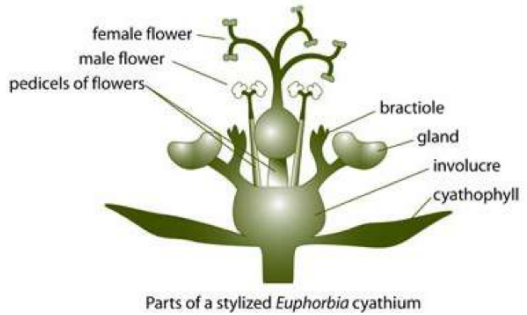
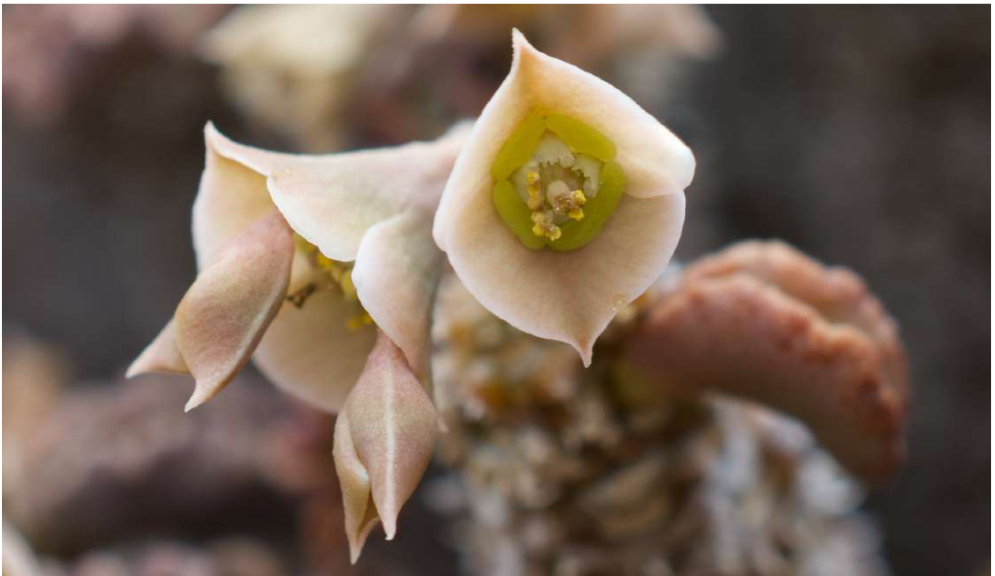


Diagram of a Euphorbia cyathium. Moller, A., & Becker, R. (2019). Field Guide to the Succulent Euphorbias of Southern Africa (pp. 14-15). Briza.

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(article continues after gallery)



Euphorbia spirosticha is a stoloniferous Euphorbia found in Madagascar. It is quite slow growing, with nearly hooded cyathia, as well as handsome, yet crinkly, green-to-purple stressed leaves.

Jared Petker

PLANT OF THE MONTH FEATURE



Euphorbia clava presents with a single large stem with long peduncles leading to beautiful green and stress-purple tinted cyathia. *E. clava* is found on the eastern cape of South Africa, commonly known as the “club-shaped euphorbia”. **Jared Petker**



Euphorbia adenensis (the Canary Islands formerly know as *Euphorbia balsamifera* ssp. *adenensis*) with a friendly native pollinator lending a helping hand. **Jared Petker**



Euphorbia actinoclada of Somalia has amazing multi-colored cyathia with goldenrod glands, tinged with strawberry red from a bit of sun-stress, along with a strawberry colored involucre and pedicels leading to more goldenrod in the pollen of the male flowers. **Jared Petker**



Euphorbia triaculeata is a spiny, shrub-like plant from Somalia with beautiful golden-yellow cyathia. *E. triaculeata* is allegedly self-fertile, however, I've not been able to acquire seed from my extremely free-flowering plants of the same origin. Trial and error has me to believe that a genetically distinct partner would help the pollination process along. **Jared Petker**

PLANT OF THE MONTH FEATURE



Euphorbia bupleurifolia is a dioecious Euphorbia found in Southern Africa. While most *E. bupleurifolia* in cultivation grow aboveground, in habitat, *E. bupleurifolia* in habitat barely peek out of the ground with their leaves and inflorescences on display. Plant pictured is from the collection of Al Klein. **Jared Petker**



Euphorbia richardsiae is seen here with rich reddish-purple cyathia and unadorned glands at different stages of maturity. The plant pictured is from the collection of Al Klein. **Jared Petker**



Euphorbia micracantha, found on the Eastern Cape of South Africa, provides a challenge for a photographer without a pricey macro-lens (such as myself). While its Latin name emphasizes its tiny spines, its cyathia are notably tiny at only 2-4mm wide. **Jared Petker**

PLANT OF THE MONTH FEATURE

Above the involucre are the nectar glands of the cyathia. Four to five glands are usually found to form a ring around the top of the involucre. These glands can come in a ton of different shapes, and colors, and at times, have appendages which help create a wide variety of visually enticing shapes to be enthralled by. As you might have guessed, the nectar glands surrounding the involucre help attract pollinators to the plant. The *E. spirosticha* on Page 8 displays yellow-green glands which are quite diminutive in size and simple in shape. In contrast, a cyathium of *Euphorbia monteiroi* can be seen below with deep burgundy nectar glands and finger-like appendages reaching out from them. Also notable are the pair of green bracts, not cyathophylls in this case, sitting several millimeters below the involucre. The bracts seen here are modified leaves, similar to cyathophylls; however, they are not considered a true part of the cyathium.



Euphorbia monteiroi is a Southern African Euphorbia which generally presents as a single, spineless, and erect main stem, emitting foot-long peduncles, topped with the beautiful burgundy colored cyathial parts seen above. **Jared Petker**

And now to the actual flowers. The flowers on Euphorbia are diminutive in size compared to the cyathium. The female flower typically emerge first in Euphorbia, which are bi-sexual—more on that shortly! In the *E. monteiroi* photo above, we can see the standard three-pronged female flower emerging from the apex of the involucre. In the case of *E. monteiroi*, the female flower is the same burgundy color as the involucre and glands. However, that matching colorway isn't always standard. On the next page is a photo of a *Euphorbia pentops* cyathium with a yellow-green female flower standing out of a reddish involucre with green nectar glands surrounded by quite stunning finger-like appendages. The three-pronged nature of the female flower of *E. pentops* is much less pronounced than in *E. monteiroi* and more “squished” together. The size and shape of the female flower in Euphorbia can vary in morphology, just like Euphorbia themselves.

PLANT OF THE MONTH FEATURE



Euphorbia pentops is a medusoid Euphorbia from Namaqualand. Its name is derived from meaning the "Euphorbia with five eyes", pointedly alluding to the green spots on its nectar glands. Plant pictured is from the collection of Peter Walkowiak.

Jared Petker

The female flowers of Euphorbia would be quite lonely without male counterparts! Male flowers of Euphorbia typically emerge after the female flower has matured, and form as a group of tiny male flowers perched on top of a stalk called the pedicel. Once matured, the male flower produces pollen, which can also come in a variety of colors. Below, we see a grouping of cyathia on *Euphorbia* sp. 'Greyton' littered with male flowers, housing bountiful amounts of the yellow pollen needed to pollinate the female flowers (which you'll need if you'd like any shot at producing seed pods, seeds, and offspring). The glands showed in the photo are full with nectar, elliptical in shape, and unadorned of appendages.



Euphorbia sp. 'Greyton' is a peculiar Euphorbia collected from around Greyton on the western cape of South Africa. It somewhat resembles both *Euphorbia groenewaldii* and *Euphorbia tortirama*—though I've noticed it to have much chunkier branches and stouter tubercles than these two similar friends.

Jared Petker

PLANT OF THE MONTH FEATURE

DIOECIOUS VS MONOECIOUS EUPHORBIA, AND THE NEED FOR GENETICALLY DISTINCT CLONES

An interesting characteristic of Euphorbia is that not all species have both male and female flowers present on the same plant. Some Euphorbia are monoecious, and do have male flowers which emerge after the female flower has matured. Many of the Euphorbia shown so far are monoecious, such as *E. monteiroi*, *E. spirosticha*, and *E. genoudiana*. However, some Euphorbia, like the *E. horrida* pictured on the previous page, are actually dioecious, meaning that female and male flowers are found on separate plants. When a Euphorbia is dioecious, you'll need both a male and female plant to properly pollinate the female plant with the pollen from the male plant. *Euphorbia tubiglans*, shown below, is another example of a dioecious Euphorbia. *E. tubiglans* can be seen with dainty little bits of orange nectar exuding from its glands and long oval-shaped cyathophylls.



Euphorbia tubiglans is small shrub-like Euphorbia found in rocky slopes and other bushes around Jansenville and the Eastern Cape of South Africa. Its nectar glands are folded into tube-like structures, hence its name. **Jared Petker**

A final point to note is that some Euphorbia require, or at minimum much prefer, genetically distinct clones to promote further diversity in their offspring.

While determining if a Euphorbia in your collection is dioecious or monoecious is relatively straightforward after seeing it flower, knowing whether your plant prefers a genetically distinct clone or is able to self-pollinate is a bit tougher. Many monoecious Euphorbia self-pollinate freely, such as the *E. genoudiana* shown at the beginning of this article. Others may be able to self-pollinate if lucky, but prefer a genetically distinct clone for better results. Short of trial and error, you may need to research whether your plant requires a genetically distinct clone if you're aiming for successful pollination.

JARED PETKER

REFERENCES

- [1] Bruyns, P. V. (2022). *Euphorbia in Southern Africa*, Volume 1. Springer.
- [2] Moller, A., & Becker, R. (2019). *Field Guide to the Succulent Euphorbias of Southern Africa*. Briza.

JULY 2023 BRAG TABLE WINNERS GALLERY

SDCSS members came through and shared lovely winter plants at the July Meeting's Brag Table, judged by Tom DeMerritt.

Thanks for participating in the brag table! Remember, we have a Brag Table every meeting. Novices have a great chance of winning club bucks, so why not give it a try? We'd love to see your plants!

Notocactus by Pam Badger

BRAG TABLE: NOVICE SUCCULENT



1st: *Operculicarya decaryi*

Luis Gonzalez



1st: *Jatropha podagrica*

Luis Gonzalez

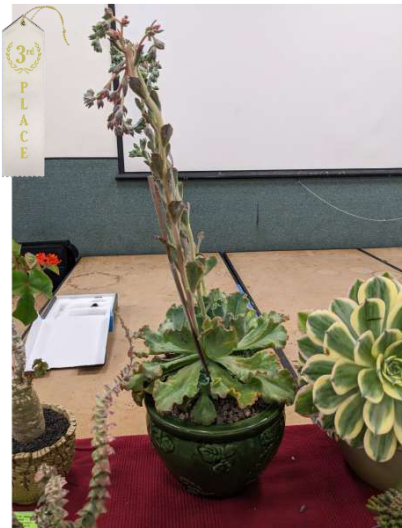
BRAG TABLE: NOVICE SUCCULENT



2nd: *Euphorbia flavanagii* (*Euphorbia caput-medusae*)
Miriam A. Parent



2nd: *Dorstenia barnimiana*
Der-shing Helmer



3rd: *Echeveria* 'Curly Locks'
Miriam A. Parent



3rd: *Euphorbia flavanagii* 'Cristata'
Reggie E. Salazar

BRAG TABLE: NOVICE SUCCULENT



Aeonium arboretum

Miriam A. Parent



Euphorbia flanaganii

Reggie E. Salazar

BRAG TABLE: NOVICE SUCCULENT



Aloe 'Christmas Carol'

Luis Gonzalez



Crassula sp.

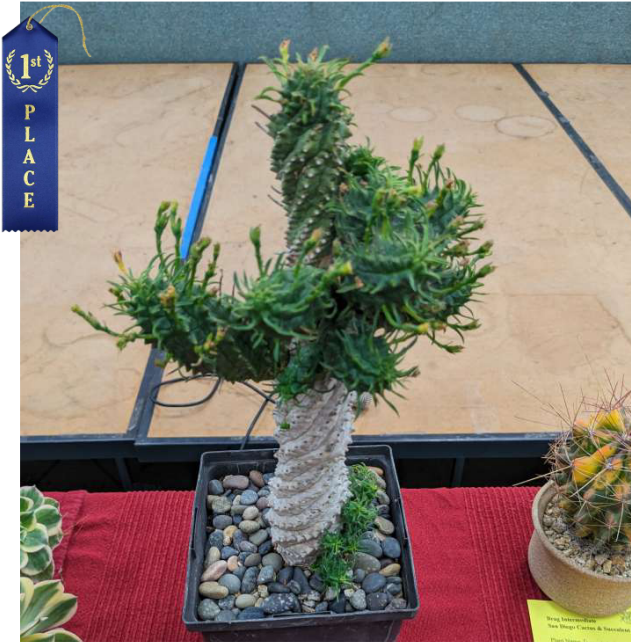
Tricia Bostard



Euphorbia mammillaris

Kit Lynch

BRAG TABLE: INTERMEDIATE SUCCULENT



1st: Joan Herskowitz- *Euphorbia spiralis*

Joan Herskowitz



2nd: *Sinningia bullata*

Melanie Howe

BRAG TABLE: INTERMEDIATE SUCCULENT



3rd: *Dioscorea alata*

Chuck Ramey



3rd: *Euphorbia suppressa*

Jared Petker

BRAG TABLE: INTERMEDIATE SUCCULENT



Euphorbia stellata

Joan Herskowitz



Monanthes polyphylla

Chuck Ramey



Mestoklema tuberosum

Joan Herskowitz



Schizobasis intricata

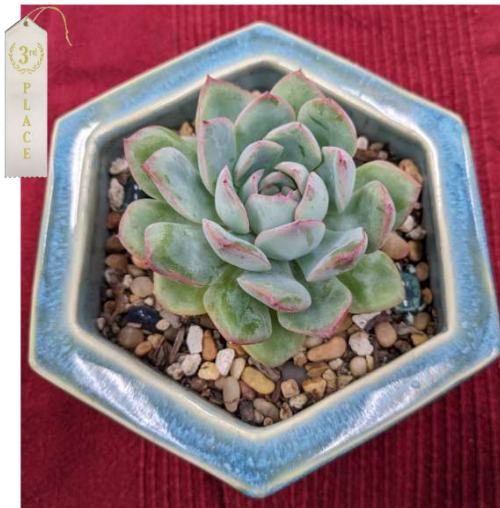
Chuck Ramey

BRAG TABLE: ADVANCED SUCCULENT



1st: *Agave albopilosa*

Kelly Griffin



3rd: *Echeveria 'Apus'*

Naomi Orosz

BRAG TABLE: ADVANCED SUCCULENT



Echeveria sp.

Naomi Orosz



Euphorbia aeruginosa

Pam Badger



Agave hybrid

Kelly Griffin

BRAG TABLE: ADVANCED SUCCULENT



Dorstenia gigas

Tom DeMerritt

BRAG TABLE: NOVICE CACTUS



1st: *Echinocereus rigidissimus*

Miriam A. Parent



1st: *Astrophytum asterias hybrid*

Reggie E. Salazar

BRAG TABLE: NOVICE CACTUS



2nd: *Coryphantha elephantidens* Tatiana Church



2nd: *Rebutia heliosa* Luis Gonzalez



3rd: *Mammillaria elongata* 'Copper King' Luis Gonzalez



3rd: *Notocactus scopa* Miriam A. Parent

BRAG TABLE: NOVICE CACTUS



Gymnocalycium vatteri

Tricia Bostard



Astrophytum asterias kikko

Reggie E. Salazar

BRAG TABLE: INTERMEDIATE CACTUS



1st: *Ferocactus hamatacanthus*

Melanie Howe



2nd: *Gymnocalycium mihanovichii* var. *friedrichii*

Chuck Ramey

BRAG TABLE: ADVANCED CACTUS



1st: *Ferocactus emoryi*

Dean Karras



2nd: *Notocactus (Parodia) sp.*

Pam Badger



3rd: *Ferocactus viridescens*
Dean Karras

No photo available...
many apologies!