



January 31, 2016 at 2:00 pm: Raul Puente-Martinez, Curator of Living Collections, Desert Botanical Garden presents *From the Atacama to the Sonoran Desert: The Fred Kattermann Collection at Desert Botanical Garden.* *Eulychnia acida* in habitat. Photo credit Kattermann Collection

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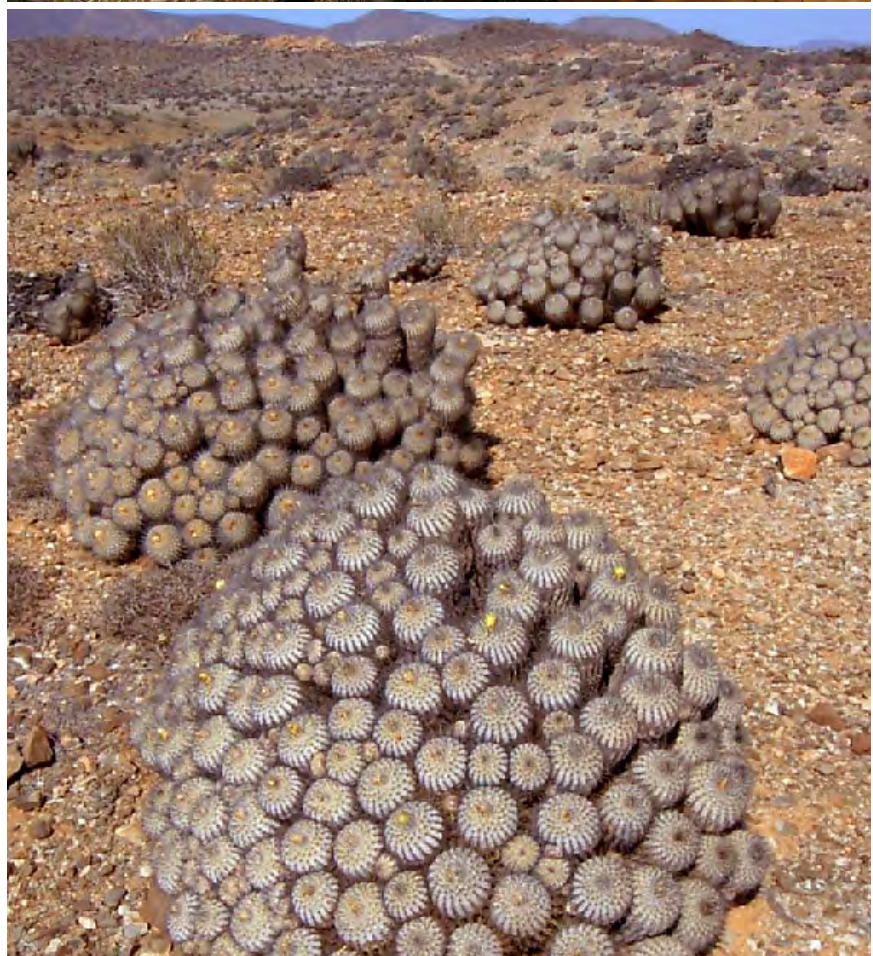
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From the Atacama to the Sonoran Desert: The Fred Kattermann Collection at Desert Botanical Garden.

In March of 2014, the Desert Botanical Garden received a donation of what may be the most significant of the private cactus collections in the United States: the collection of Fred Kattermann. This collection consists of more than 1800 plants of South American cacti belonging to 8 different genera. It is also remarkable in that all the plants are of known wild origin and have been fully documented with locality data, coordinates, vouchers, and numerous photographs of the plants in habitat illustrating stems, flowers, fruits and seeds. Most research institutions can only dream of acquiring this type of collection. Accepting this private collection was based on its importance as a scientific collection, as well as the fact that it fits the objectives of the DBG's current Collection Plan. This presentation will explain the process and planning required to receive and move the collection from New Jersey to Arizona, and how several departments, worked together to accomplish this goal. Funding to bring Kattermann's collection was provided by CACSS. A quick tour of Kattermann's Collection will be given to members after the meeting.

Raul Puente-Martinez has been the Curator of Living Collections and a Research Botanist at the Desert Botanical Garden since 2001. He oversees curatorial aspects such as plant acquisition, maintaining the Living Collection database and mapping of the garden. Raul was directly involved in the planning, acquisition and moving of the Kattermann's collection, including driving a large truck from New Jersey to Arizona.



Top: Raul Puente-Martinez

Bottom: *Cylindropuntia cinerea* in habitat. Photo credit
Kattermann Collection

Index of CACSS Newsletter Articles. Sue Hakala

I have taken on the task of developing and organizing an index of all the articles that have appeared in the Society's newsletters. Why? Because there are so many great articles that have been written by our members through the decades about growing our beloved plants **here** in the low desert. Searching the web is a great way to get information about a plant, but the growing tips usually never exactly apply here. The goal is to make our information easily accessible for everyone on our web site. Our web site is being redesigned right now, so this is the perfect time.

Lauren Mark volunteered to proofread the indexes by year that I had prepared. This was not a small task. It took a long time, and she did a terrific job. Thank you Lauren.

A group of members agreed to meet and discuss how best to organize the newsletter information. Pictured in the photo from left to right is Mike Gallagher, Lauren Marks, Beth Kirkpatrick and Lee Brownson who sat down with me one Sunday afternoon to discuss the many ideas and issues.



Lois Schneberger and Sueellen Seifert were not able to attend, but did provide input too. Dan Smith discussed ideas with me. Gard Roper gave me a shove to do this early on by saying how we needed a photo index (now done). Many people responded to the email sent out earlier asking for input, and everything they suggested has been implemented. Now we want to ask you.

What topics would you like headings for? (beginners guide, field trips taken, landscaping with cactus and succulents, Mammillarias). How would you want to search for information on the web site? (by topic, botanical name, etc.) What subjects/topics would you want information on? (both specific and general) Any other ideas that you may have on how and what should be sure to be included. Please respond by January 30 to me at hakala2@icloud.com

From our President, Beth Kirkpatrick

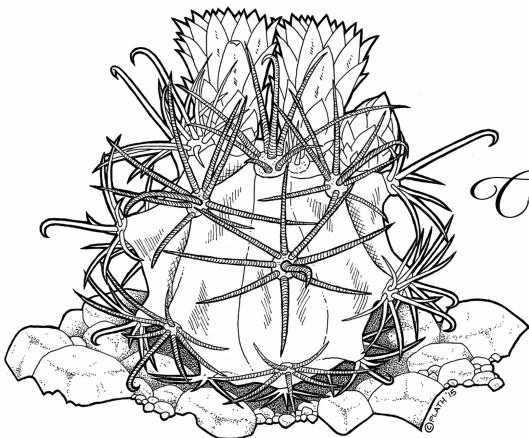
It is an honor and privilege to be your new president for the upcoming year. It has been my experience that the more I volunteer the more fun I have, the more I learn and the more people I meet. It is my desire to encourage each of you to become more active in our society through volunteer and leadership activities. With the Cactus and Succulent Society of America (CSSA) Convention coming to Phoenix in 2017, we, as the host society, will play an integral part ensuring it's success by providing individual volunteers and leadership roles in vital positions.

Retiring in 2006 from my work in Europe; like many others, moving here was like landing on a moonscape. It had been my intention to learn more about gardening and landscaping as my retirement hobby, something I did not have time to do while working. I knew gardening in the Sonoran desert would be unlike anything I knew, so I immediately joined a number of plant related organizations: I became a Master Gardener, took the Desert Botanical Garden Landscaping certification, joined the Arizona Herb Association, the Native Plant Society, the Central Arizona Cactus and Succulent Society (CACSS) and two garden clubs. *When I "go for it", I really do!*

Although I still belong to all those groups and have learned much from each of them, the one I enjoy the most and am the most active in is the CACSS. I appreciate all the people who have helped me and coached me on successfully growing cactus and succulents. The silent auctions we have at each meeting have afforded me the opportunity to acquire some very nice plants at bargain prices. At our annual show and sale I have been able to buy some great pots and unique plants. Encouraged by Doug Dawson to exhibit, I did so reluctantly. Not expecting to win anything as I only put in three plants, but walked away with a blue ribbon! I was so surprised and delighted, and now I'm hooked. I find our field trips an excellent way to get more plants and also to meet new and interesting people. But most importantly, I have made many new friends and for that I'm grateful, as the only people I knew when I moved here were my husband and my daughter.

In 2009, Gard Roper encouraged me to run to be a director on the board and I have since benefited by learning more about the workings of the society and serving as your membership chair and webmaster, and of course, meeting and working with even more folks along the way. At the encouragement of Wayne Whipple and a couple board members I decided to run for president.

I would like to thank all the people who have answered my questions, suggested plants for me to grow, coached and encouraged me to get more involved and befriended me. I am looking forward to this new adventure.



Celebrating the Beauty of the Desert™

Cactus and Succulent Society of America

37th Biennial Convention

July 26-30, 2017

PEG Points: What's Going on with the Propagation Education Group

NEXT PEG MEETING TIME: January 2016 PEG Meeting has been canceled; Next meeting is scheduled for March 2016 at 10am at the Desert Botanical Garden; specific date and location details to be published at a later date.

This month, one of our CACSS members - Grant Meyer - documents his process for hand-pollination of Asclepiad (or Stapeliad) flowers - you know the ones that smell like rotten flesh? These plants have a very intricate pollination relationship with flies, so take a little more work to fake out the flowers into producing seed.

Hand-pollinating *Stapelia* plants; Grant Meyer

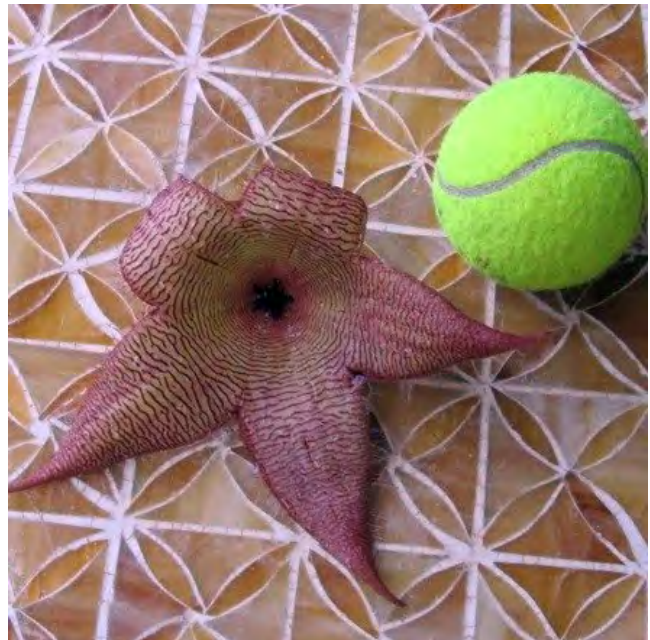
A flower that has the colors, aroma, and FUR of an animal carcass attracts more than just its usual pollinating ants and flies, it attracts human admirers too. I'm one of them and I hope you are too. If you're not, maybe you will be after seeing and hearing more about the genus *Stapelia*.

Sometimes called "starfish flowers" because of the flower shape, or "carrion lily" because of the flower scent, *Stapelia* plants do very well in most parts of the Valley of the Sun. Just give them plenty of sun (with protection from the hottest afternoon sun in summer), and water only when quite dry. My happiest plants are in pots or are in the ground on the east side of the house, or east side of garden walls, or the east side of shading plants. I water them only when quite dry, maybe every other week from May through late October, and once a month if it hasn't rained the rest of the year. When in doubt, don't water. Do that and you too will be rewarded with their large, furry flowers in a range of colors that includes maroon, brick reds, browns, and tans. Here's a quick photograph of a typical *Stapelia* flower in my garden, separated from the plant, with Wilson the tennis ball to show relative size. These are not small flowers!

Start off easy: *Stapelia*

Stapelia gigantea, *S. grandiflora*, and *S. hirsuta* are some of the easiest species to find and to grow. Be warned though, once you start growing

Stapelias you'll want to grow all of the species that you can. After that, you may want to try your hand at growing hybrids. If you grow several species in proximity, the pollinating ants and flies may do the work for you. If not, or if you desire combining specific individual plants, as I do, you can try hand-pollinating your *Stapelias* (or any *Stapeliad*, the catch-all group name that refers to the genus *Stapelia* and its close relatives like *Huernia*, *Orbea*, and several others, but be warned, the structure is the same, but the parts are even smaller). This is interesting, precise work. It's more akin to picking a lock than it is to the old "dab yellow pollen from the anther onto the sticky stigma" of squash, cacti, and most succulents (which is also interesting, but straightforward).



Fear not though. With some tools (forceps, razor blades, and magnifying glasses), it can be done by humans, not just by house flies! I suggest relying very heavily on a wonderful how-to guide written several years ago for the *Cactus and Succulent Journal* (U.S.) by Dr. Gerald S. Barad, MD., happily also posted online: <http://www.cactus-mall.com/stapeliad/pollin.html>.

Personal experience: get tools, be patient and burn incense

Dr. Barad's terrific article will give you plenty of information to get you started. It has allowed me to make dozens of crosses, producing many, MANY seeds, seedlings and subsequent generations from my own hand-pollinating efforts with *Stapelia* and with *Huernia*. Some have resulted in dramatic improvements in flower color, flower form and flower frequency, and some have resulted in, well, meh (nothing noteworthy). Regardless of results, it's always gratifying to make a cross, grow the resulting seeds into plants, and see the new flowers.



You'll need two different flowers on two genetically different plants (two plants started as stem cuttings from the same parent plant won't work). They can be the same species if you'd like, but just not the same clone. The other color commentary I would add regarding the process is to just go ahead and sacrifice/dissect the male flower, which makes it much easier to find, and get, the hidden wishbone-with-pollen-sack "pollinarium" which you will be inserting into the hidden slot, or "staminal lock" of the female flower (with a steady hand, VERY pointed tweezers, a magnifying glass [and possibly magnifying eye glasses], and some luck). Oh, and burn some incense nearby as it is smelly work, especially on a hot day. I wear rubber gloves to keep most of the scent off of my

fingers. Here's a picture of my supplies for a typical morning of *Stapelia* hand-pollinating.



The tools I typically have handy are tweezers that come to a sharp point, several single-blade razor blades, lots of paper towels, rubber gloves, and several different magnifying lenses, and even a pair of magnifying visor-type lenses (think "jeweler"—see photo above. No, I don't have a selfie of me in my pollination outfit!

Once I have the two plants in bloom I wish to cross, I decide which is to be the pollen donor (father) and which is to be the egg donor/seed producer (mother). I then cut off the father flower and I cut off all of the petals to make access easier. Following Dr. Barad's instructions, I dissect the flower and isolate the very small pollinarium by plucking off the dark brown "mini-petals" (inner corona petals) at the very center of the bloom (see the close up pic showing a flower cut in half—pluck off the small brown mini-petals and expose the pollinarium which is visible in the photo (try to visualize viewing two wishbones from the side, one at left arrow and one at right arrow).

I use tweezers to collect the pollinarium and place them on a paper towel. When ready, I head over to the female flower and gingerly slip the pollinarium into the staminal lock. It's very

much a tiny, annoying, lock-and-key mechanism. I'll repeat it several times on each flower until I run out of pollinaria or patience. When I'm done I cover the female flower with nylons or organza mesh to prevent pollination by insects. Then it's just a waiting game.



Pollinarium (side view of wishbone structures)

What to expect when you're expecting (and how to plant your seeds)

If pollination was successful, the female flower will make two seed pods or seed horns full of seeds. When they're the size of okra, the seed pods will split and release many tufted seeds. Be ready! I either put a twist-tie on the almost-ripe seed pod, or I just encase them in a small bit of nylon or cheese cloth so the pods don't split and release the tufted seeds which float away on the slightest breeze. If the seed pod pops open when you're away, the seeds are likely to drift away within a few minutes, so secure the pod before it's fully ripe. Remove the feathery tuft off of the seeds and plant the seeds in a fast-draining cactus/succulent mix. Keep them lightly moist in bright light and they should sprout quickly, usually within a month (often in just a few days). Seeds are viable for a year or two, but fresh is best. When the seedlings are an inch or two tall they're ready to be slowly acclimated to the great outdoors. Give them morning sun and afternoon shade, water when dry, and a bit of

fertilizer in early summer and in 2-5 years you'll have blooms. They will vary in size, color, furriness and stench, but each will be wonderful in its own way. Enjoy--from a distance! Happy gardening!

PEG Seed Depot List (updated January 2016)

Newly added:

Fouquieria macedougalii

Mammillaria grahamii

Neoraimondia herzogiana

- Seeds are in packets of 20-25 (sometimes more) unless otherwise labeled.
- Cost is \$1 per packet; if you donate a packet of identified seed, you only pay 50¢ per packet.
- Seeds are only available at monthly CACSS meetings or at PEG meetings.
- If you would like to donate seeds or have any questions about the Seed Depot, please contact Tristan Davis (minime8484@hotmail.com).

NOTE: Full PEG list is NOW available on the club's website. To access the list, go to centralarizonacactus.org; the Seed Depot list can be found towards the bottom right of the Home Page.



Graptopetalum rusbyi grown by PEG. Planted 07/31/2015

Library Notes, Nancy Mumpton

Our library has acquired from Doug Dawson 2 copies of the DVD: *Desert Dreams: Celebrating Five Seasons in the Sonoran Desert* that will be of interest to all who enjoy our beautiful desert here in Arizona.

We have received a new book titled: *Beginner's Guide to Gasteria, Haworthia, Agave and Other Succulent Monocots* by Tom Glavich of the Cactus and Succulent Society of America. It gives lots of practical information on these plants that thrive in Arizona.

Also, we have received the November-December 2015 issue of the CSSA Journal. It includes an interesting review of our newly purchased 2 volume set by Joel Lode titled: *Taxonomy of the Cactaceae*. Check it out!

Finally, I have received information about someone in Maryland who has a large collection of various cactus and succulent periodicals (such as the *British Cactus & Succulent Journal*, etc.) and books that he would like to sell very reasonably or, in some cases, give away for postage. Please let me know if you have an interest and I will supply his contact information.

In Recognition...

In recognition of Wayne Whipple's three-year CACSS Presidency, a donation of \$300.00 was made to the Desert Botanical Garden in December. Many thanks to Wayne for his three years of service to our society.

Many thanks to Diana Decker who has been the editor of the *Central Spine* from June 2010 to December 2015. Diana is joining the Propagation Education Group and will take over the leadership of the Seed Depot. Diana's spirit of volunteerism is much appreciated.



Wayne Whipple and Mike Cone in the Signature Botanica shade house for Julie and Steve Plath's open garden in Morristown.



15th BIENNIAL MID-STATES CONFERENCE

JUNE 9, 10, 11, 12, 2016

DENVER, COLORADO

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FOR MORE INFORMATION PLEASE CONTACT CONFERENCE CO-CHAIRS:

RANDY TATROE rtatroe@q.com 303-699-8958 or WOODY MINNICH

cactusdata@msn.com 661-406-9816



Blue ribbon award winner: *Yucca endlicheniana*. Steve and Julie Plath

Central Arizona Cactus and Succulent Society

2016 Show & Sale | April 8 - 9 - 10

Open Garden

Sunday February 7th, 2016 from 10:30 AM - 3:00 PM



16819 S. 15th Ave. Phoenix

602.625.5186

Cliff Fielding is having his 9th annual open garden and cactus social. There are a bunch of African Bulbs, hundreds of seedlings, collector Cactus, and a whole mess of Mesembs. Most of the plants are seedlings or young plants. Every one and their guests are welcome to spend a pleasant afternoon in the warm February sun.

There will be a few snacks and drinks. See you there.

Plant Subject Matter Experts

Doug Dawson 480-893-1207 | dawsonlithops@hotmail.com
Specializations include Growing from Seed, Flora of Namibia, Lithops, other Mesembs, Melocactus, Miniature Cacti and Succulents of Arizona.

Mike Gallagher 602-942-8580 | mgallagher26@cox.net
Specializations include Aloes, Haworthias, Columnar Cacti, and Turbinicarpus.

Dean Patrick 480-759-0312 | desertpatrick@cox.net
Specialization in softwood stem-cuttings, plant division and seed starting (rooting cacti, agave and aloe).

Steve Plath 623-915-7615 | revegdude1@juno.com
Specializations include General Propagation and Desert Revegetation, Ariocarpus, Astrophytum, Cyphostemma, Echinocereus, Fouquieria, Thelocactus.

Dan Smith 480.981.9648 | smithdans@cox.net
Specializes in adeniums. raising adeniums from seed, grafting and adenium culture in general

Bob Torrest 480-994-3868 | robertst9114@msn.com
Specializations include Desert Landscaping, Unusual (including Rare Fruit) Trees and Shrubs, Aloes, Agaves, Columnar Cacti.

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Next newsletter issue submission deadline: February 14, 2016. E-mail all submissions to:
cacsscentralspine@gmail.com We encourage members to submit high resolution images of their plants
with captions for inclusion in the newsletter when and where possible.