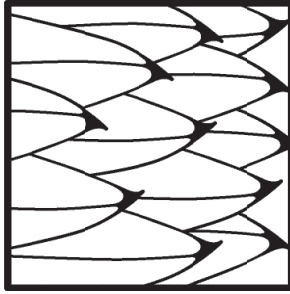


Central Coast Cactus  
& Succulent Society  
c/o Markus Mumper, Editor  
780 Merced St.  
Pismo Beach, CA 93449



# On the Dry Side

March 2009

## Inside this issue —

- Upcoming Speaker - Tim Harvey
- Upcoming Events - Shows & Sales
- Hospitality News - Free Plant!
- Plant of the Month: Frailea
- New CCCSS Website

## February Meeting Recap

Spring is in the air. Nature is renewing, and it's time to renew members' dues too. New incentives for participation are here. Bring a plant for show and tell and receive a free raffle ticket! Sign up for refreshments and receive a free plant! Newcomers, as usual, always receive a free plant. The annual May Show and Sale will be at the Ludwick Center this year. It's not too early to start preparing your entries. Charles Spotts introduced our plant of the month, Ferocactus. Fero means fierce and that describes the cactus's broad, short, hooked spines. They're native to Mexico, Southern U.S., Baja, and can grow 6-8 feet tall in the ground. There are many varieties, some with yellow or red spines, crown flowers, and hardiness to 20 degrees. Our speaker of the month was Stephen Ingram: botanist, photographer, and author of *Cacti, Agaves, and Yuccas of California and Nevada*. It took four years and 30,000 miles of travel to find and photograph native species for his book. He talked about the ecologic importance of native cacti, Yuccas, Agaves, and the unique symbiotic relationship between Yuccas and their sole pollinator, the Yucca Moth. Mr. Ingram discussed the endangered nature of Agaves in California and how native people made baskets, hairbrushes, and nets from Yucca fibers. He covered much more than this brief recap. His presentation concluded memorably with music accompanying a sequence of dawn to dusk photographs of cacti, Agaves and Yuccas in their native habitats. To fully appreciate the breadth and depth of Mr. Ingram's work, enjoy his treasure book in your library.

~Eva Zayha



## Propogation.....

SPEAKER OF THE MONTH:

### Tim Harvey

Tim will review various propogation techniques including the use of tissue culture for the conservation of rare and desireable plants. Specific examples will be illustrated with various plant families of interest to succulent plant enthusiasts: e.g. Agave, Adenia etc.

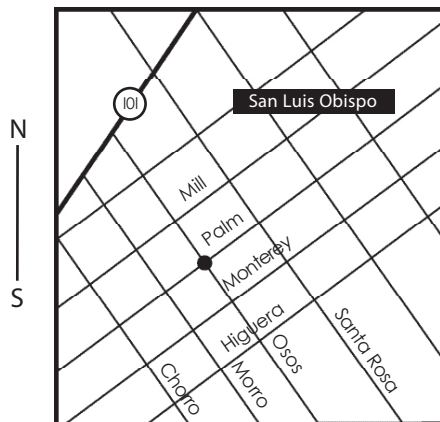
**PLANT VENDING:** We've had a lot of interest in members selling plants at the meeting so it's time we go over the rules. Anyone is able to sell plants at the meetings. However, to be fair to all, including our speakers, we ask that no one bring plants during the meetings at which the speaker is going to be selling plants. That is their opportunity to help pay for their trip expenses. Those that are interested in selling plants at upcoming meetings should contact Nick Wilkinson. He will be slotting members into meetings that are open based on a first come first served basis. Thank You.

**T-SHIRT CONTEST:** We will be having a CCCSS club t-shirt design contest! All t-shirt drawings must be submitted at the April meeting. For those that can't be at the April meeting please submit your images to Nick Wilkinson, 1719 14th St., Los Osos, CA 93402 no later than April 1st.

**NEW WEBSITE:** The CCCSS has a website! Visit [CentralCoastCactus.org](http://CentralCoastCactus.org).

**MEMBERSHIP:** Don't forget, March is the last month to re-new membership.

## NEXT meeting:



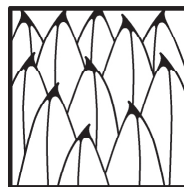
Sun, Mar. 8'th  
at 2:00 pm  
SLO Public Library  
(large room)  
995 Palm Street  
San Luis Obispo  
805-781-5991

## next.....

**BOARD—MEETING**

The next Board Meeting will be held on Mar. 8th right after our General Meeting. As always, all members are welcome.

**NOTE:** Easter Sunday occurs during the second Sunday of April, the April meeting will occur on the third Sunday of the month.

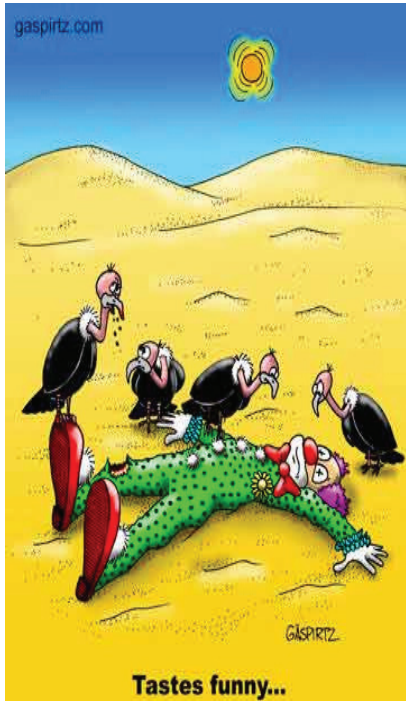


Central Coast Cactus and Succulent Society  
e-mail: [markusmumper@gmail.com](mailto:markusmumper@gmail.com)

All submissions to the CCCSS newsletter must be submitted two weeks prior to the monthly meeting.

<b>PRESIDENT</b> Mary Peracca 550-6977	<b>VICE PRESIDENT</b> Charles Spotts 237-2054	<b>SECRETARY</b> Eva Zahya 546-8202	<b>CCSA AFFILIATE</b> Rob Skillin 473-0788	<b>TREASURER</b> Edie Price 489-8491
<b>EDITOR</b> Markus Mumper 773-1499	<b>ASST. EDITOR</b> Nick & Kara Wilkinson 528-8880	<b>PUBLICITY</b> Joan Field 773-6644	<b>LIBRARIANS</b> Martin Howell & Jeanne Hanysz 544-5389	<b>HOSPITALITY</b> Maggie Wagner, 773-1499 Pat Gilson, 481-5596

A one time free newsletter will be shipped out to those who sign in at the monthly meetings. After this dues must be paid in order to continue this service.




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# Upcoming Events

- MAR 31 Caro Desert Nursery Auction  
 Ave. S-12, Littlerock  
 661-456-0787  
<http://gallery.me.com/michaelhackett1#100015>
- APR 10-15 CSSA 2009 Biennial Convention  
 Westin La Paloma Hotel, Tucson, AZ  
[www.cssainc.org](http://www.cssainc.org) for more information.
- APR 18-19 Green Scene Plant Sale  
 Fullerton Arboretum  
 1900 Associated Rd., Fullerton  
 714.278.4791
- MAY 3 South Bay Epiphyllum Society Show and Sale  
 South Coast Botanical Gardens  
 26300 Crenshaw Blvd., Palos Verdes  
 310.833.6823
- MAY 9 Fresno Cactus & Succulent Show  
 Sierra Vista Mall  
 Intersection of Shaw & Clovis Avenues  
 More information to follow

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816 Main Street, Suite D  
 Cambria, CA 93428  
 Tel: 805.927.5024

**Great News!!**  
 Sign up to bring refreshments and get a 4 inch plant!! **You must sign the Hospitality Sign-Up Sheet** and bring refreshments to get a plant. We need refreshments for each monthly meeting and we need to know who is bringing them. Thanks to everyone who has been contributing to the refreshment fund; donations can be made at the refreshment table.  
 Maggie & Pat

WHEEL THROWN AND  
 HAND BUILT CERAMICS  
 EST. 1988

Richard Rowe  
 potter / artist

7432 Exotic Garden Rd.  
 Cambria, CA 93428  
 P 805 924 1340

[rsowe@earthlink.net](mailto:rsowe@earthlink.net)  
[www.richardrowe.com](http://www.richardrowe.com)

**The Clayworks**

## hospitality news:

Thanks to Jeanne Hanysz & Martin Howell, Lena Kapp and Joann Spotts for providing last meeting's treats.

This month Edith Price, Kathie Matsuyama, Melany Shapiro & Margareta Smith will host.

If your interested in providing a snack for future meetings please sign up at the front desk or contact Pat Gilson, 481-5596.

## CCCSS Library

CCCSS now has a library of books that can be checked out by CCCSS members. You will find the most updated list of books available for check out at each meeting. Please contact librarians Martin Howell & Jeanne Hanysz, 544-5389, for more information and availability.

\* Any book lost or damaged will require a replacement fee.

# Frailea

B. & R. by **Mark Fryer**  
San Diego C & S Society

One of the most frequent contemplations I have about Frailea has been around its method of generating (or not) seeds. Frailea flowers are cleistogamous, possibly exhibiting some degree of apomixis (either obligate-impotent offspring- or facultive-possibly sexual offspring), but nearly always producing copious seed if the flower never opens. If the flower opens, no seeds will be produced. I have been unable to set seed on Frailea by cross-pollinating various species of Frailea in flower simultaneously, but Frailea flowers are usually shy to reach anthesis anyway.

Cacti are very sexual plants. For a specialized, semi-woody, perennial plant family to exhibit the entirety of sexual and asexual reproduction that the Cactaceae do, and do it all within the new world (for all practical purposes), one might assume the Family to be at least fairly uniform and concise. This would be a classic "false assumption" in terms of cacti, from their outward appearance (morphology), to their DNA. In getting familiar with the naked ovary, members of the family Cactaceae have two means of reproduction, sexually (self-fertilization, cross-fertilization, and cleistogamy), and asexually (floral-vegetatively via proliferation {vivipary - think of *Opuntia prolifera* or others that will offset from a fruit. The term 'vivipary' is also used to describe the germination of seeds within a fruit, a common occurrence in a number of cacti genera} or via Agamospermy {apomixis - the ability for the female to set fertile fruit without male assistance - or parthenogenesis where the embryo develops from the egg cell without fertilization}).

To the best of my knowledge no one has ever taken the cleistogamy question further, to determine whether the plants are actually self-pollinating or not. Cleistogamy is such an interesting behavior; I am surprised at the dearth of hypothesis regarding whether or not it presents a possible basal or derived character state. The only other genus that exhibits this behavior is *Melocactus*, which many consider to be a highly derived member of tribe *Cereeae*. Would this indicate derivation for Frailea within *Notocactinae*, or is it more primitive?

Some suggest looking at another self-fertile miniature due west of Frailea's homeland: *blossfeldia*. Some have even suggested lumping the two together (which is asinine in my opinion), but the fruit, seed, and floral characteristics are too extreme from one another to warrant too much attention. It would be easier to make the case that the plants have seeds very close to *Malacocarpus* (*Notocactus*), and must be a close cousin. When the rare flower does open, a striking similarity to many of the canary-yellow *Notocactus* and *Parodia* flowers is seen. With Frailea we have an opportunity for contemplating cactus floral reproduction from all sorts of perspectives, we have a genus that forces us to look at what constitutes a species from a form, and we have a charming, true-miniature ornamental cactus.

Frailea might be viewed by some as a jangled mess of nomenclature. Originally named by Britton and Rose in honor of Manuel Fraile, a Spanish-born caretaker of the cactus collection at the USDA in Washington DC, the genus has seen more than its fair share of revision, amplification, and lumping. Originally thought to contain 8 species (one of which wasn't even a Frailea- *Gymnocalycium bruchii*), they cited the type as Frailea (*Echinocactus*) *cataphractus*, which was described from greenhouse material. Bear in mind that the tide of enthusiasm for botanical treasures from South America had flooded the horticultural market with copious forms and varieties some 50 years prior.

Britton and Rose had never seen a flower, but saw fit to include it in their subtribe *Echinocactinae* based on it being a globular cactus with fuzzy-hairy fruit. By the time Backeberg attempted to define the genus some 30 years later, there were well over 100 species in circulation, and he reduced the number to 35,



Since 1966, there have been additions and subtractions to the extreme from all sides of the argument, resulting in a high-end figure of well over 200 species and forms, to 18 species with a couple of forms. A search on the IPNI website returns 302 entries.

As long as I've been growing cacti, the genus Frailea has been a source of fascination, contemplation, and frustration for me. Contrary to many growers' opinions about them, there's nothing "frail" about Frailea at all. I suppose the phonetic similarity to the word "failure" probably doesn't help these little plants take center stage in more cactus collections around the world. As with most tap-rooted cacti, the Frailea demand some special care in cultivation to avoid either failure, or a frail plant.

To add to the challenge of raising Frailea, they are relatively short-lived plants, only lasting a mere 15 or 20 years before simply dying of old age. The vast majority of Frailea are propagated from seed, and if one wants to truly engage with the diversity of the genus, basic seed-germinating skills will be required to flesh out the genus in cultivation. This is probably the cause of the dearth of commercially available plants, where the ornamental horticulture industry balks and the collectors and specialists shine. I have raised Frailea from seed to flowering in 6 months under 24-hour light cycles with a constant temperature available for juvenile plants to mature very quickly, which from the longevity standpoint makes sense to me.

Culture of Frailea in captivity is essentially the same as for any tap-rooted species: don't let it dry out, and don't plant it in something that's going to stay soggy for more than ten minutes. Bruising the roots when it's attempting its subtle and brief fall/spring slow-downs (I won't say dormancy, because I don't believe these actually need a dormant period in the sense *Echinocereus* or *Coryphantha* do) can be catastrophic, but fortunately Frailea are usually quick to recover. My oldest plants occupy 2" pots that probably haven't had their soil changed in over 10 years. I encourage anyone with an interest in cacti to grow as many different forms of it as they can find!