



Mammillaria thornberi

ESPINAS Y FLORES

NEWSLETTER of the SAN DIEGO CACTUS & SUCCULENT SOCIETY, INC.

A Non-Profit Public Benefit California Corporation

VOLUME XXXII NUMBER FIVE SATURDAY, MAY 10, 1997 @ 1:00PM

VOLUME XXXII NUMBER SIX - ANNUAL SHOW & SALE ISSUE:

SATURDAY, MAY 31, 1997 @ 9:00AM - SUNDAY, JUNE 1, 1997 @ 10:00AM

SAN DIEGO

CACTUS & SUCCULENT SOCIETY

HOSTS THE CSSA



July 5-11, 1997

27th BIENNIAL CONVENTION

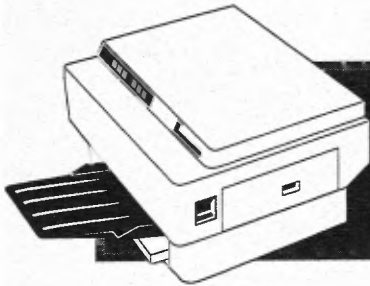
May Program: Dudleyas

Kelly Griffin has a passion for dudleyas, as anyone who knows him can attest, and he knows a bit about them! On one recent expedition into Baja he demonstrated a remarkable knack for finding these gems —often in areas that had already been scrutinized and dismissed by the other succulent enthusiasts on this trip. His quest for observing dudleyas in their natural habitat has taken him as far north as Marin County, as far south as Mulege, into the Sierra Nevada mountains, and out to the islands of Baja California.

Kelly's program includes slides of many plants that are not pictured in Paul Thomson's book, *DUDLEYA AND HASSEANTHUS HANDBOOK*, as well as, some plants he believes may be new discoveries. The program will focus on the dudleyas that he has personally encountered along with the various flora and fauna which share the same locals. Surely, something for everybody. Kelly attributes much of the good photography to his wife, Jacqueline, who has been helping him a great deal with his photo work. Program will include cultivation advice, and he plans to bring in some fairly obscure species of dudleyas which he has raised from seed — for show and sell. Additionally, he states, "I intend to lay to rest once and for all the *Dudleya brittonii*, *Dudleya anthonyii*, and *Dudleya pulverulenta* confusion."

About our cover: This wonderful drawing of *Dudleya pulverulenta* by Woody Minnich, qualifies as entirely relevant not only to this month's program, but also as a reminder that very very soon the CSSA Convention will be in town! This picture represents one of the two Art Contest winners. This design which features a lovely San Diego (and Baja) Native will adorn T-shirts as part of our official logo for the SDC&SS - CSSA Convention 1997. A beautiful plant and a beautiful design! Thanks Woody!!

Please send your letters, artwork, poetry, Cactus or Succulent-of-the-Month articles, puzzles, comments, or criticisms, etc. to:



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PUBLICATION DEADLINE IS THE 20th of the prior month.

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Mark your calendars, folks! May is going to be a **BIG, BIG Month!** Now is the time to decide on what plants you will be entering in our annual show. Notice the lack of “ifs, ands, or buts” in this statement. To put it simply: **There will be NO EXCUSES!!** If you are attending the show, you should be showing some plants—even one plant!! Every member owns at least one plant that he or she is proud of—bring it in—share it with the world! Very old age and very long distances are the only acceptable excuses for ducking this duty of SDC&SS membership!!

Remember it is Okay to ask for help. There will be many experienced and knowledgeable members at the May meeting, Saturday, May 10th, and at show set-up on Friday, May 30th. One of the librarians can assist you in finding the correct taxonomy and spelling for your entry labels. Also, there will be a nice selection of ceramic pots, good plastic pots, soil mix, perlite, soil topping, and various other useful supplies offered at the May meeting. When you stop by the supply table, make sure to thank **George & Jerry Plaisted** for all their work and dedication. George, who is a member of nearly every botanical society in San Diego and either past or present president of most, probably sets up this supply table five times a month. He does this for our benefit—not profit. And because he is purchasing in bulk for several societies, the prices (*just like him!*) are terrific!

Our condolences go out to **Stefy Mangold** and her mother Cathryn. We understand that Vernon Mangold after a long illness passed away on Easter Sunday.

Also, we sadly note the passing of another cactus & succulent legend: Ed Gay. He and his wife of forty years, Betty, operated a nursery “Cactus Ranchito”, and made some remarkable contributions to the cactus & succulent world through their innumerable articles. Ed Gay traveled extensively on botanical expeditions throughout Baja, the mainland of Mexico, Chile, the Galapagos Islands, as well as the Southwest (USA). A real mover & shaker in the ‘60’s and ‘70’s, Ed served the CSSA, as a Board Member, Show & Convention Chairman, Vice-president, and President (1968-69); Betty was treasurer for the 1969, 1971, & 1973 CSSA Conventions. One of Ed Gay’s articles shall be re-printed in either the September or December issue of *Espinas y Flores*. Coincidentally, Ed Gay is mentioned this month in **Phyllis Flechsig’s** article on *Echinocereus* of Baja.

File this under . . . **Welcome to the 90’s – Finally**, well by next month anyway, we will have @e-mail, and, hopefully, I will be able to spin an *Espinas y Flores* website! The black hole in our computer room grows . . . one more geek joins cacti_etc. Guess now the real question is: will Michael continue to lament the loss of his wife to an upgraded 586 with CDRom and a fancy set of speakers? . . . Or will he, upon discovery of virtual magazines, catalogs, libraries, museums, and chat rooms, succumb to the bug? Many thanks to SDC&SS members **Tom DeMerritt** and **Mike McCammon** for all their help in setting up our new system. Since my own knowledge of hardware ends immediately after “Be sure power cord is plugged into surge protector; be sure surge protector is plugged into the wall outlet”, I could not have done it without them. Thanks again!!

The **Del Mar Fair** will run from **June 17th through July 6th** this year. SDC&SS member **Jeff Moore of Solana Succulents** will be putting in a succulent exhibit this year – make sure you see it when you’re at the fair.

We attended (*Michael judged*) the April 12-13th, Southcoast Cactus & Succulent Show & Sale in Palos Verdes. The show was well attended and included a novice category filled with many fine entries belonging to an enthusiastic group of members that are new to the hobby. The judge’s lunch was terrific – we were treated like royalty, and there was enough food for at least another twenty people! The sale was well organized and seemed quite successful; cashiers were efficient; the security good, and there was always someone knowledgeable on sight to answer the many questions. We hope our show goes so well. Luckily, the show chairman, **Dick (and Lupe) Hulett**, and the sale chairman, **Jim (and Roberta) Hanna** are also SDC&SS members. And even luckier, they will be participating in our show. Dick & Lupe will be showing and selling. Jim & Roberta will bring down boxes Saturday morning, but we can’t seem to convince them to show their trophy winners down here! How about it Jim & Roberta?

The University of Arizona Press has announced that they will reprint **Agaves of Continental North America** by Howard Scott Gentry—provided they can get 200 prepaid advance orders. Retail price for this invaluable book will be \$110.00. You can reserve a copy through SDC&SS member **Mary Odette Books**, Tucson, AZ (520)749-2285.

Rumor has it that the old Tropic World Nursery has been purchased by Bob Perry, author of **Landscape Plants for Western Regions** (1994) and **Trees & Shrubs for Dry California Landscapes** (1980). Succulent enthusiasts, conservationists, and local water authorities, alike, should be looking forward to this exciting new addition to our already terrific group of North County nurseries.

Calendar of Events

May 10: Urban Forest Field Day - Book & Plant Sales, Demonstrations, Seminars, Career Change Info. 9:00am - 2:00pm at Cuyamaca College, Ornamental Horticulture Field Site, 900 Rancho San Diego Parkway, El Cajon; (619) 670-1980.

May 10 - 11: Los Angeles Branch of International Geranium Society Show & Sale at Descanso Gardens, 1418 Descanso Drive, La Cañada - Flintridge, CA; 818-952-4400.
or 818-794-7744.

May 11: San Diego Epiphyllum Society Annual Show & Sale - 10am-4pm in Room 101, Casa del Prado, Balboa Park. Set-up: Sat May 10, 5pm-8pm /Sunday 7am-9:30am. Don't miss this terrific show - your mother will love it!! Info: Randall (619) 460-9069, Ken (619) 588-4163.

May 17 - 18: Gates C&SS Show & Sale - setup May 16; last show at the San Bernardino Museum, 2024 Orange Tree Land, Redlands; show chairperson - Diane Park, 909-735-0677.

May 17: Native Orchids of San Diego County with Bud Close - SDNHM class May 15 7-9pm and field trip on Saturday 8am-4pm. Registration (\$29) and info: (619) 232-3821, ext #203.

May 17 - 18: Huntington Spring Plant Sale at Huntington Botanical Gardens - members & volunteers only on Sat. - General public Sun, 10:30am-4:30pm. Volunteers needed! contact Brigitte Williams @ 818-352-4531.

May 24: Hugo Cota "The Genus Ferocactus" at Palomar C&SS Meeting, begins at noon at Joslyn Senior Center, 724 N. Broadway, Escondido; for additional information: **Stan Yalof** 760-743-1560.

May 24 - 25: San Diego 19th Annual Bromeliad Plant Show & Sale, Room 101 - Casa Del Prado, Balboa Park - 11:00am - 4:00pm; Free Admission. Lots of Tillandsias, etc. All proceeds from this sale go toward upkeep of the "Leonard Kent Bromeliad Garden" in the San Diego Zoo which is located across a bridge next to the Children's Zoo. For additional information contact show chairperson, Emilie Stone 619-565-4911.

May 31 - June 1: San Diego Cactus & Succulent Society Annual Show & Sale: Room 101, Casa del Prado, Balboa Park. Free Admission - Open Show; set-up on Friday, May 30, 10am-8pm; for show entries & exhibit info contact **Tom Knapik @ 619-462-1805**; plant sales chairman: **Michael Cullen @ 619-563-5683**; general information, directions, etc. **Michael & Joyce Buckner @ 619-222-3216 phone or fax.**

June 7 - 8: Orange County C&SS Show & Sale, Buena Park Mall, LaPalma & Stanton Avenues—one block east of Knotts Berry Farm. Info: 714-539-8773 or 714-637-8192.

July 5 - 6: CSSA National Show & Sale, Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA 91108; setup Thursday, July 3 (closed on Friday, July 4). 818-405-2160.

July 5 - 11: CSSA 27th Biennial International Convention at the Town & Country Hotel /Convention Center in Mission Valley, San Diego, CA. Information contact Martin Mooney @ (619) 427-6796.

August 14 - 16: The Second Annual Baja California Botanical Symposium presented by the San Diego Natural History Museum, co-sponsored by the Universidad Autónoma de Baja California Herbario BCMEX. This will be held at the Museum in Balboa Park and will include a preliminary reception, two days of technical paper presentations, poster sessions, and a dinner at **Quail Botanical Gardens** with **Dr. Reid Moran** as a keynote speaker. Possible field trips are still being planned. Please contact **Dr. Jon Rebman**, Dept. of Botany - SDNHM, P.O.Box 1390, S.D. 92112; (619) 232-3821 ext# 247; e-mail: sdnhmrebman@earthlink.net.

August 16 - 17: Southern California Inter-City Cactus & Succulent Show & Sale at the L.A. County Arboretum, 301 N. Baldwin Ave., Arcadia, CA. Sponsored by Long Beach C&SS, L.A.C&SS, and San Gabriel Valley C&SS. This is very possibly the BIGGEST Cactus & Succulent Show in the World!! Setup August 13, Wednesday - August 15, Friday. For more information: (310) 599-1146 or (805) 944-2784.

September 27: Huntington Succulent Symposium at Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA (818) 405-2160. Talks, Sales, Rare Plant Auction, Tours, etc. This year's symposium is being held in conjunction with the IOS convention being held on Friday, Sept 26 - Sunday, Sept 28.



The April meeting was ugly, no foolin'. Members brought in some awful looking plants and the People's Choice Award for the Ugliest went to Anna Cornett's plant, a cactus of some sort. (*One of my plants made the top four.*) We had fun with the contest. I hope that those in attendance went away with a better idea of what NOT to do when growing succulent plants and are now more prepared for displaying their best at the annual show. Thanks go out to **Dorothy Byer** and **Phyllis Flechsig** for their informative presentation on southern Africa, which was complimented by Phyllis' excellent article in April's newsletter. Remember, while there, if you step on lithops or conophytums, you buy the champagne that evening.

EarthDay 97 held at Balboa Park on April 20th was a huge success thanks to the following members: **Stan Yalof** (*for selecting a terrific location and firming up plans prior to his departure*), **Jeff Harris**, **Sara Schell**, **Carol Jean Wolcott**, **Susan Hopkins**, **Betty Athy**, **Bruni Scheffler**, **Tom DeMerritt**, **Chris & Carolyn Clayton**, **Dan Hammonds**, **Bob Brooks**, **Ed Nolan**, **Herb Stern**, **Tom Stiko**, **Chris Tratnyek**, **Ron Austin**, **Carl McLeod**, **Rudy Lime**, **Alex Murphy**, **Martin Mooney**, **Brent McCowen**, and if I missed you - please let me know! A special thanks to **Pam & Lee Badger** for overseeing the event, and to **Joey Betzler** for producing a "Conserve Water - Grow Cacti" flyer promoting our club. A new banner made by a friend, Rick Sweeney, announced our presence loud and clear and will be used at future club functions.

The next big event will be our annual show and sale, May 31 and June 1. All trophy winners from 1996, please bring your awards to the May meeting. Also start saving those small low boxes; please bring them when you come to the show & the sale. Schedules and entries [labels] will be available. Volunteers for sales area help contact **Mike Cullen (563-5683)**, for reception, security, or clerking the show contact **Joey Betzler (569-8510)**, to help with or contribute to the Judge's Lunch please contact **Pamela Badger (589-1223)**, and for entering an exhibit or displaying artwork or photography in the show contact me, **Tom Knapik (462-1805)**. Please remember this year's Youth Display by encouraging any relative or friend (*18 years old or under*) to produce a work of art featuring cacti or succulents for a special children's exhibit. Also, I want to remind all new members and show goers that starting this year our show will have a new Novice division for plant entries in all categories of cacti and succulents.

The CSSA convention will take place in July. This is going to be a great event - please get involved!! Sign-up sheets will be passed around at the May meeting, since we have no regular meeting in June. We need 12 volunteers for registration July 5- 6 (*please contact Martin Mooney*), 6 volunteers to pick up foreign speakers (*please contact Kelly Griffin*), and for the display area I need 4 volunteers to set up. The deadline for the \$165 registration fee has been extended to June 1st. So get involved with this international event one way or another.

The results of our Art Contest will be on display at the May meeting. Thank you to all who participated with your wonderful works of art. There were 17 entries judged by the board. Three finalists were selected and the ad committee selected 2 to represent the San Diego club at the upcoming convention. They were produced by **Woody Minnich** and **Richard K. McNeill**, Pamela Badger's brother. Both artists will receive \$200 for their efforts. Great going!

See you at the meeting. Thanks,
Tom Knapik

Let us not lose sight of our purpose! May I quote the SDC&SS Bylaws:

Article II - Purpose

It shall be a non-profit organization formed to promote knowledge, study and interest in cacti and succulent plants through education programs, public exhibits, a public garden and the sharing of this common interest.

REAL Contributions Every Member Can Make to the San Diego Cactus & Succulent Society, Inc. - A Non-Profit Corporation:

1) Write a Cactus or Succulent of the Month article & make presentation. Submit an article, poem, puzzle, drawing, or other cactus & succulent related item for possible publication in *Espinas y Flores*. Have you made an exciting culture discovery? A new soil treatment? pest management? fertilization? seed propagation? Share it!!

2) Help with the June Show & Sale: security inside show/ outside sales/ & with the park-your-plant booth, sales table / cash register / counting plants & checking for correct prices, putting up posters & signs, publicity, reception & membership information, answering those ever present "How do I keep it alive?" questions, contribute to the Judge's Lunch, volunteer as a clerk, or *(the best choice)* **PARTICIPATE - enter a plant, two plants, twenty plants, or enter an exhibit - educational or artistic, fun or serious!** Remember: the only bad entry, is the one you didn't bother to bring in.

3) Treat SDC&SS Library Books with tender loving care. If you notice that a borrowed book needs a new dust jacket, clean-up, or repair – please let the librarian know. If you lost or damaged a library book, please take responsibility, and make arrangements to replace it. The society spends several thousand dollars each year maintaining, updating, adding to and replacing books and other resource materials to our extensive library. This library was created for the benefit and education of all our members. All borrowed materials should be treated with the utmost respect.

You can help: Volunteer to put dust jackets on library books; or make a donation *(sometimes this is done in someone's honor or memory)*. There are several ways to make a donation to our library: a \$\$ contribution; by giving books, videos, reference materials to the library for dispersal; or you can bequeath all or part of your cactus & succulent library to the SDC&SS, Inc. by making mention of this in your Last Will & Testament.

4) Bring in goodies for the refreshment table; help Pam & Lee Badger, Stefy Mangold, and Rudy Lime with the set-up and/or **clean-up** of the refreshment table. If you're always in the chow line, but don't care to do the shopping - reach into your pocket and stick a couple of \$\$bucks\$\$ into that collection bowl!!

5) Volunteer your time, muscles and knowledge toward improving our public gardens: Park Avenue Succulent Garden, Balboa Park and Baja Hill, The Wild Animal Park. Help the society create public displays that will serve to educate and capture the public interest. *(i.e. Flower Show - Del Mar Fair, Earth Day Display, or Christmas on the Prado)*.

6) Support and/or help organize field trips and educational programs for public schools, Quail Gardens, Anza-Borrego Fndn, the Living Desert, the Huntington, etc. Ask Stan Yalof, he started a Cactus& Succulent Symposium at Quail Gardens.

7) Share your plants: Show-off your finest on the Brag Table; bring in healthy pest-free plants, cuttings, or seedlings which you possess in abundance and place them on the Exchange Table in trade for something new to you! There is also a Seed Exchange put together by Kelly Griffin where you can trade, purchase, and contribute seeds, as well as, obtain assistance with acquiring that hard to find seed and propagation advice on that hard to grow seed.

8) Donate a plant to the Monthly Benefit Drawing – if you don't have anything you wish to part with, buy some tickets!!

9) Check out the fine gardening supplies made available at the best possible prices by George & Jerry Plaisted, or the wonderful SDC&SS member-made ceramics, . . . or the exciting assortment of SDC&SS member grown plants available at most meetings.

10) Bring a friend. Educational slide shows and programs with world renown speakers are scheduled at the regular SDC&SS meetings for January, February, March, April, May, July, August, October and November each year. Details of these programs can be found on Page Two of the *Espinas y Flores* for that month. **Programs cover a diverse range of succulent related topics – something for everybody!**

Dudleyas Under Siege: Endangered Species Update

Compiled by Michael Buckner

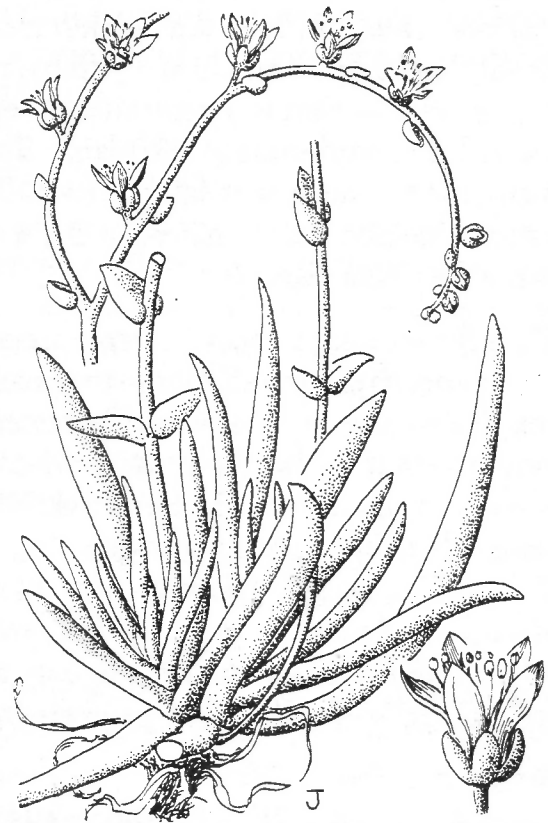
1) *Dudleya abramsii* ssp. *parva*,
“Conejo Dudleya,” proposed as threatened
Dec. 3, 1992. Determined threatened Feb.
28, 1997.

2) *Dudleya blochmaniae* ssp.
brevifolia, “Del Mar Dudleya,” proposed
endangered Jan. 14, 1994.

3) *Dudleya blochmaniae* ssp. *insularis*,
“Santa Rosa Island Dudleya,” proposed as
endangered Sept. 26, 1995.

4) *Dudleya cymosa* ssp. *marcescens*,
proposed threatened Dec. 3, 1992. Listed
as threatened status Feb. 28, 1997.

5) *Dudleya cymosa* ssp. *ovatifolia*,
“Santa Monica Dudleya,” proposed
threatened Dec. 3, 1992. Listed as
threatened Feb. 28, 1997.



Dudleya attenuata ssp. *orcuttii*

6) *Dudleya cymosa* ssp. *costafolia*,
downgraded to not threatened Feb. 28,
1997.

7) *Dudleya nesotica*, “Santa Cruz Island
Dudleya,” proposed as endangered Sept.
26, 1995.

8) *Dudleya setchellii*, “Santa Clara Valley
Dudleya.” Final listing as endangered May
22, 1995.

9) *Dudleya* species Nova, “East Point
Dudleya,” referred to in the trade as
“White Sprite” or “Munchkin” (*Dudleya
greenii* forma “White Sprite”). Proposed
endangered Sept. 26, 1995.

10) *Dudleya stolonifera*, “Laguna Beach
Dudleya,” proposed endangered Nov. 23,
1995.



Dudleya blochmaniae ssp. *blochmaniae*

Cactus of the Month: *Echinocereus* of Baja California by Phyllis Flechsig

Probably by this time most of you are familiar with the attributes of the genus *Echinocereus*, but here is a quick refresher for those who aren't: they are low-growing, usually multi-branched, usually spiny, usually with large, showy flowers in most of the cactus colors—that is, everything except blue. In many species the flower buds burst through the epidermis of the plant. The flower tube is spiny, as is the fruit; when the fruit ripens, the spines fall off, signaling to any passing rodent that it is ready to be eaten. Echinocerei are native to the southwest United States and Mexico as far south as northern Oaxaca.

The echinocerei of Baja California are an interesting and diverse group. One could plan a trip—or maybe expedition—to travel through the peninsula and visit them all. You could start in the north with *Echinocereus engelmannii*, with which most of us are familiar, as it is the “hedgehog” with the big purple flowers that we see in our own Anza-Borrego desert. In Baja it grows in the center and toward the east side of the peninsula to about half way down it. (It also grows in Sonora, on the other side of the Gulf of California.) Then you would have to make a detour into the Sierra San Pedro Mártir in order to see *Echinocereus pacificus* (also known as *Echinocereus polyacanthus* var. *pacificus*), the only red-flowered species on the peninsula. It is the “claret-cup” type, like *Echinocereus triglochidiatus* of our Mojave desert.

Next, on the west coast, beginning near Ensenada, you would come to the widespread yellow-flowered species *Echinocereus maritimus*, a very spiny, sprawling plant that is, let's face it, not as attractive as most of the others. It grows off and on most of the way to Magdalena Bay, always near the coast. In the central desert, near Cataviña, is the “is-it-extinct?-or-isn't-it” *Echinocereus ferreirianus* var. *lindsayi*, an intriguing recent discovery with showy flowers; I have never found it myself, but then I'm not in on the secret of its location. Heading back over to the east coast at Bahía de los Angeles and on some of its islands is one I have found, though never more than one or two plants at a time, and generally in very poor condition: *Echinocereus ferreirianus* var. *ferreirianus*, with flowers of purple tinged with orange-red.

From the central desert south nearly to the Cape is the large, strikingly handsome (especially if back-lighted) *Echinocereus brandegeei*, with long yellow spines and lavender flowers. There are many of them all around Bahia de la Concepción, and they add a good deal to the landscape there.

About halfway down the peninsula, south of Bahia de los Angeles there are islands far offshore, in the Gulf of California, that harbor *Echinocereus grandis*, a very large species (as the name implies) that is in the rigidissimus group: that is, its radial spines are pressed close to the stem. Its flowers are funnel-shaped and whitish to pale pink. It is not at all common in cultivation, though seed is sometimes available. Few of us ever get to the islands on which it grows! (At this point, I was going to mention *Echinocereus websterianus*, which I think of as a Baja species; however, it is native to San Pedro Nolasco Island, which is technically not a part of Baja California. Forget I mentioned it!)

Cactus of the Month: *Echinocereus* of Baja California by Phyllis Flechsig:

Cross back over the peninsula to the west coast to find a species closely related to *Echinocereus brandegeei*: on Isla Magdalena and the nearby coast, toward the southern end of the peninsula, is *Echinocereus barthelowanus*, a fairly uncommon native of the Magdalena plain. Its spines are very numerous, red to pink when young, black in age (or brown, yellowish, or grey), and its flowers are bicolored, more or less purple.

We are now approaching the Cape region, where a fairly recent discovery grows: *Echinocereus pensilis*, from the Sierra Victoria and Sierra de la Laguna (the latter range runs from just south of La Paz almost to the Cape). This plant occasioned a lot of comment when first discovered—was it related to the epiphytic *Aporocactus*? It was originally given a genus all its own, *Morangaya*, named for Reid Moran and Ed and Betty Gay, its discoverers. However, although its long, narrow, sprawling stems are not very like those of other echinocerei, and its pink flowers have quite long tubes, it is not really so very different from such well known echinocerei as *Echinocereus scheeri* or *Echinocereus gentryi*, which grow in the Mexican states of Sonora and Durango. *Echinocereus pensilis* grows in the mountains, hanging down over steep rock faces and rooting along its stems.

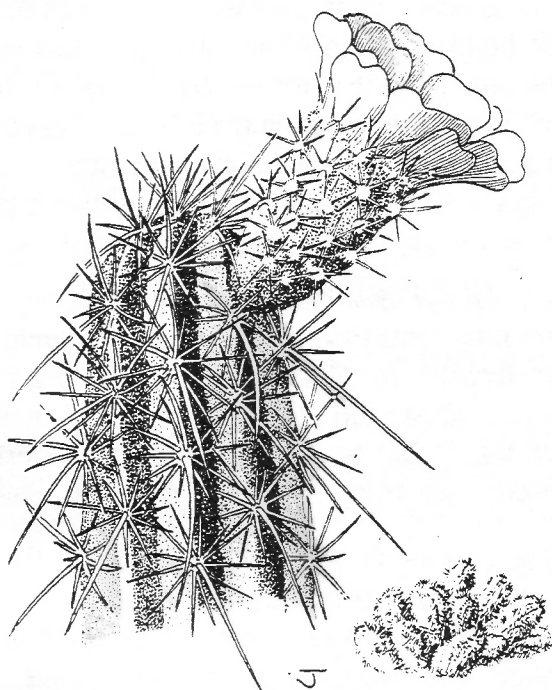
Finally, having reached the Cape, we can look for the small *Echinocereus sciurus*, whose name means “squirrel’s tail.” It is a neat little plant, well covered in bristly spines, with bright pink flowers.

As to culture, if you grow any cacti you have a good idea as to what to do. The species listed above vary a good deal from very easy to fiendishly difficult (for me, anyway). Good drainage is always a requirement! I keep my plants fairly dry in winter; I think they are more apt to bloom if they had a good winter rest. All are worth while for their large, showy flowers.

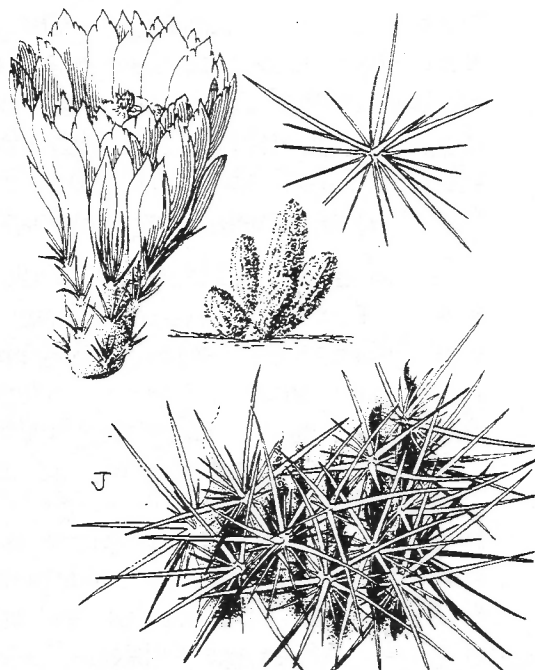
LITERATURE CONSULTED:

Taylor, Nigel P. 1985. The genus *Echinocereus*. Timber Press.

Roberts, Norman C. 1989. Baja California Plant Field Guide. Natural History Publ. Co.



Echinocereus engelmanni var. *munzii*



Echinocereus engelmanni

Illustrations from *Flora of Baja California* by Ira L. Wiggins.

EASY SUCCULENT CARE INSTRUCTIONS

- ① The primary key to successful cultivation of succulent plants consists of **watering** at correct intervals and/or during proper seasons. When watering, plants should be drenched thoroughly. At every third or fourth watering, the accumulated salts should be leached out by watering several times in one session. Allow the top 25% of soil in the pot to dry out between watering, when plants are in their growing season. Keep plants much drier when they are dormant and during cold weather. Cacti, especially those growing outdoors, require very little or no water through the winter months or whenever the possibility of frost exists.
- ② Plants in **containers** should be moderately potbound. Roots typically seek heat and aeration as well as moisture. The potbound condition is preferable. When the pot is too large for plant, the soil can remain cold and wet for extended periods. This is how rot happens.
- ③ **Soil** mixes, which rarely contain actual soil from the garden, vary tremendously in composition and proportion of ingredients. Soil mix for container succulents should drain quickly, retain moisture, and act to hold the plant securely in place. Perlite, a coarse white gravel-like soft rock, is generally the primary component of nursery mixes for cacti. Many cacti thrive in a sandy quartz, perlite, or gravel, with little or no soil.
- ④ **Fertilizing** container plants is best done minimally. You may add a weak solution of plant food at every second or third watering. Succulents approaching and during their dormant period should not be fertilized. (*The cessation of a plant's growing season is often indicated with flowering and seed or fruit production.*) Carefully read fertilizer labels - different fertilizer's ratios may be used to promote either foliage or flower production. Dilute, dilute, dilute - More is not better! Even a little too much fertilizer can "burn" a plant, causing damage or death.
- ⑤ As with other plants, cacti and succulents are prone to occasional attacks by various **harmful insects** and diseases. Many pests can be removed manually or with an intense spraying of plain old hose water. Please be environmentally responsible; use cultural, physical and biological pest management whenever possible. Get to know your insects - there are many good bugs that eat "bad" bugs (*like Lady Bugs*). Chemicals should be used sparingly and only as a last resort. Remember, these pesticides may be doing humans more harm than the insects. Always read the labels carefully. There are many fatty-acid "safer" insecticides now on the market. **Prevention is always the best cure - healthy plants do not attract pests.** Preventative measures include keeping plants in top health, growing them outdoors where/when possible, and growing plants "hard", that is, with a conservative watering and fertilizing regime and strong light.
- ⑥ Many cacti and succulents enjoy the protection of an overhead shrub or tree in their natural habitat. Few species require full sun. Today most succulents have been grown in greenhouses with **filtered light /some shading and good air circulation**. Don't sunburn your new plant! Acclimate it to its new home. Morning sun is best; most cacti require at least four hours of strong light daily. Many leafy succulents thrive with fewer hours of bright light. Dormant plants should be kept somewhat shaded and protected, allowing them to be kept dry.
- ⑦ **Propagation** of succulent plants is a rewarding outgrowth for many cactus & succulent enthusiasts who have grown their plants lovingly and caringly for a number of years. Growing from seed is most rewarding, and numerous succulents can be reproduced from stem or leaf cuttings, grafting and division. To learn more about these techniques turn over this sheet and join the San Diego Cactus & Succulent Society!

SAN DIEGO CACTUS & SUCCULENT SOCIETY

MEMBERSHIP APPLICATION

The San Diego Cactus & Succulent Society is a non-profit organization formed to promote knowledge, study and interest in cacti and succulent plants through education programs, public exhibits, a public garden, and the sharing of this common interest. This society brings together people with a common interest for the purpose of educating the public about the beauty and uniqueness of these remarkable plants, encouraging proper collecting and maintenance of the plants through preservation of native habitats and horticultural propagation, and to foster good fellowship. You are invited to join our society, whether you are an expert, amateur, or beginner with an interest in unusual plants and flowers.

Regular meetings are held on the second Saturday of the month (except June and September) in Room 101, Casa del Prado, Balboa Park at 1:00 p.m.. Room and library are open by noon. Members receive our excellent publication, the **ESPINAS Y FLORES**, during the week of the meeting. Our newsletter contains informative articles written for the novice hobbyist, as well as the botanist; many of our articles are member written; eleven issues are sent each year. We offer knowledgeable speakers who present educational & entertaining programs; many are world renowned scholars, botanists, explorers and authors. The San Diego Cactus & Succulent Society's Annual Show and Plant Sale occurs the first weekend of June in Room 101, Casa del Prado, Balboa Park. A wide range of succulent plants, ceramic pots, and growing supplies are available during most meetings. Our society also maintains a plant exchange table, a seed library /exchange, and an excellent reference library. For additional information regarding membership, please call Joey Betzler, Membership Chairperson, at (619) 569-8510.

Yes, I (we) wish to **JOIN** or **REJOIN** the San Diego Cactus & Succulent Society, Inc.
(one year /eleven issues will begin upon receipt - Espinas y Flores insert May-June 97)

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◆ Please indicate amount enclosed \$ _____

THANK YOU FOR JOINING THE SAN DIEGO CACTUS & SUCCULENT SOCIETY!

SEND THIS FORM TO:

SDC&SS - Treasurer, P.O.Box 33181, San Diego, CA 92163-3181

The Monthly Benefit Drawing

We had a great table in April. Thanks to several generous members the Benefit Table featured some wonderfully valuable & interesting plants and books. Plus the society earned \$91.50 from your contributions.

Many thanks to our donors: **Betty Athy** for *Rebutia krainziana*, *Escobaria albacolumba* (per Ed Nolan), *Notocactus herteri*, and *Notocactus roseoluteus*; **Beverly Kirkegaard** for The Cacti of the United States and Canada by Lyman Benson; **Joe Kraatz** for *Aporophyllum hybrid #324*; and to **Michael Cullen** for a \$25.00 Gift Certificate to a restaurant @ Seaport Village.


* PLEASE REMEMBER TO CALL BETTY ATHY (469-7647) IF YOU HAVE A DONATION.

Many Thanks, *Kay Quijada*

BRAG TABLE WINNERS FOR APRIL 1997: JUDGED BY ED NOLAN

SUCCULENT:	FIRST PLACE:	Rudy Lime's <i>Pachypodium rutenbergianum</i> x <i>P. namaquanum</i>
	SECOND PLACE:	Ric Newcomer's <i>Tylecodon pearsonii</i>
	THIRD PLACE:	Rudy Lime's <i>Jacaratea hasselleriana</i>
CACTUS:	FIRST PLACE:	Marilyn Newcomer's <i>Mammillaria matudae</i> var. <i>serpentiformis</i>
	SECOND PLACE:	Kay Quijada's <i>Sulcorebutia tiraquensis</i> var. <i>longiseta</i>
	THIRD PLACE:	Ric Newcomer's <i>Copiapo desertorum</i>

Congratulations to the Ugliest Plant Owner: Amna Cornett!!




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Notice THE CACTUS AND SUCCULENT SOCIETY OF AMERICA PRESENTS ITS 27TH BIENNIAL INTERNATIONAL CONVENTION ❖ JULY 5-11, 1997, IN SAN DIEGO **Deadline Extended**

The CSSA Convention Committee is EXTENDING THE DEADLINE for late registration fees to June 1ST. A savings of up to \$30.00. Good news for those of us that have not registered yet. Please see page 18 of the March 1997 (VOL. 32 NO. 3) issue of *Espinas y Flores* for details. Register online by going to the CSSA home page: [HTTP://WWW.HPL.HP.COM/BOT/CSSA](http://www.hpl.hp.com/bot/cssa)

IS IT A DYCKIA, A HECHTIA, OR SOMETHING ELSE?

BY DOROTHY BYER

Have you ever seen a dyckia with green flowers or hechtia with red flowers? A packet of seeds was presented to me some time ago with the label, "Dyckia species with lavender flowers". This is an impossibility! The very useful reference book series FLORA NEOTROPICA OF THE BROMELIACEAE by Smith and Downs has a volume on the subgenera Pitcairneoideae that includes a description of *Dyckia heloise* stating that the flowers are green. Normally, one does not consider the color of flowers when including or excluding a plant from a particular genus or species, but in this case color can be a useful tool for such division as long as it is used loosely.

In general, the dyckias have a flower color range from yellow to golden yellow, pale orange through red orange, and true red. To my knowledge there are no red-purple or lavender dyckia flowers. There are also no blue or green flowers in this genus. Only in the genus *Puya* are blooms of these colors found.



Abromeitiella lorentziana (Mez) Cast.

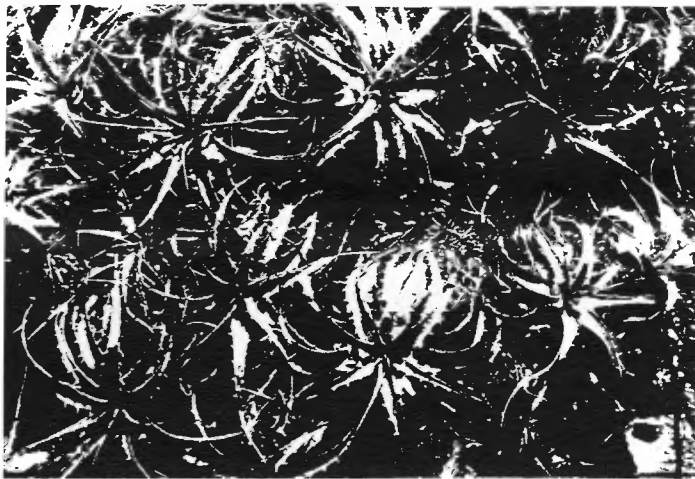


Dyckia cineria

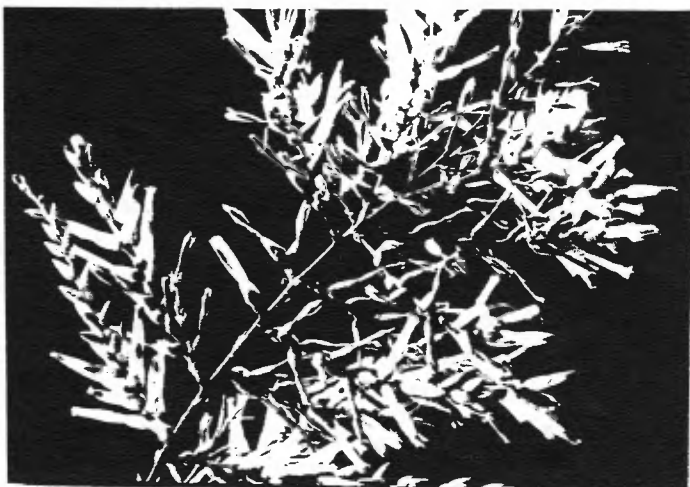
The encholirions, as well as, all other members of the Pitcairneoideae except the hechtias have bisexual (perfect) flowers. Encholirion flowers have petals that range from cream through yellow to yellow-green. Within the known 13 or 14 species of encholirions there is no orange to red petal range. Vegetatively these plants are very similar to large dyckias. One exception is the *Encholirion heloisae* which was included in the genus *Dyckia* by Smith and Downs as noted above, but has since been transferred to *Encholirion*. *Encholirion heloisae* has green flowers borne above a small maroon-red rosette. The green flowers indicated this change was in order.

More recently a packet of seeds labeled "Hechtia with red flowers" was given to me. To my knowledge there is no such thing, so I must wait about four years to find out what I really have. When you look at hechtia flowers you may think that the often colorful bracts are the petal color. Actually, hechtia flower petals are white or off-white. The flower bracts of *Hechtia macdougalli* and *Hechtia rosea* are a prominent red, making the whole inflorescence appear red. There is another phenomenon exclusive to the genus *Hechtia*, and that is dioeciousness (*separate male and female plants*). If you have a flowering *Hechtia* species look closely to see if there are anthers with pollen or if there is merely a pistil with no evidence of anthers. Dioecious flowers, a considerably elongated floral scape (*peduncle*), and white flower petals, will invariably place a specimen in the genus *Hechtia*.

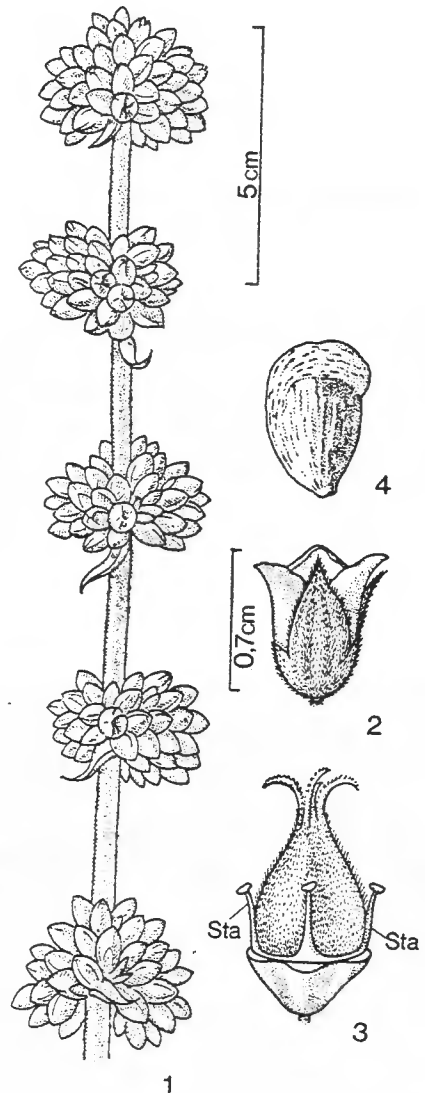
Deuterocohnias are also part of the group Pitcairneoideae – thought to be one of the most primitive, they are also confused with dyckias until they flower. The inflorescence, at least with some species, contains secondary wood and produces flowers, usually bright yellow, on the same scape for up to six years. So, do not cut this inflorescence back as you do the inflorescence remains from other genera. Another question has arisen regarding this genus. The genus *Abromeitiella* has recently been incorporated into the genus *Deuterocohnia*. Since the former *Abromeitiella lotteae* has maroon-red flowers and *Abromeitiella brevifolia* and *Abromeitiella lorentziana* have green-white flowers, we can no longer say that **all** deuterocohnias have yellow flowers.



Deuterocohnia longipetala



Deuterocohnia schreiteri
inflorescence



Hechtia glomerata:

- 1) Part of the inflorescence of female plant;
- 2-3) Flower with stamens; 4) Seed.

SUCCULENT OF THE MONTH: DYCKIAS, HECHTIAS, ETC. BY DOROTHY BYER CONTINUED:

Since generally we cannot use vegetative parts as a taxonomical aid for bromeliads, we rely more on flower color and the shape of the seed. In the Bromelioideae, the fruit is a berry, while in the Pitcairneoideae the fruit is a capsule with winged seeds of various shapes. In general, dyckias have a compact asymmetrical lateral wing attached to the seed. Encholirions have a lateral elongated falcate wing, while hechtias have a wing which more or less completely surrounds the seed.

The *Hechtia glauca* in my collection is almost invariably thought to be an aloe because of the very wide, thick, succulent glaucous blue-green leaves. It is with difficulty that people can be persuaded that it is not an aloe. My plant has never flowered for me, so I have no visual proof that it is indeed a *Hechtia* species.

My illustration of *Cryptanthus warasii* which was included in my article published in the November - December 1996 CSSA Journal, looks for all the world like a small silvery dyckia until it flowers. Once the inflorescence appears there is no question that this plant does not belong in the sub-family Pitcairneoideae, but instead, with the pineapple sub-family Bromelioideae and further within the *Cryptanthus* genus. There are plenty of other stumbling blocks when it comes to the taxonomy of bromeliads without human beings (*lumpers and splitters*) making it even more difficult. If all of this sounds confusing, we can and do make it even more complicated by hybridizing different genera and producing bigeneries, such as *Dycohnias*, *Dyctias*, and the like. It does present a case against random hybridizing when bromeliad taxonomy can and does confound even the experts.



Dyckia hebdingii - Habit



Inflorescence



Spike

All illustrations from *Bromeliads* by Werner Rauh, Blanchford Press, 1979.

**CONDENSED MINUTES OF THE GENERAL MEETING OF THE
SAN DIEGO CACTUS AND SUCCULENT SOCIETY
APRIL 12, 1997**

The meeting was called to order at 1:05 p.m. in room 101, Casa del Prado, Balboa Park by Tom Knapik President.

ANNOUNCEMENTS Greg McNaughton will be moving out of state and is in the process of selling his plant collection. Anyone interested in purchasing any of these plants should contact Greg.

Floyd Gable, who lives in Santee, is in need of transportation to our monthly meetings. It would be appreciated if some of our members living in this area could help Floyd out.

EARTH DAY The Earth Day event will be held at the Park next Sunday. The membership was advised of the volunteers needed and a sign-up sheet was circulated.

ANNUAL SHOW This year there will be three categories in which entrants will be able to show plants. The names of the categories have yet to be determined -- the Show Committee is working out the details. Entry tags and Show Programs will be available at the next meeting. The children of our members should be encouraged to participate -- possibly with some type of artwork for the Show.

CONVENTION Tom advised that volunteers will be needed to help with meeting foreign guests at the airport, registration, answering questions, and assisting vendors coming down from the CSSA Show on Sunday night getting ready to set up on Monday morning. Tom will be in charge of the Tiki Hut, an area for displays. He asked that those showing plants at our Show consider displaying their plants at the Convention. Anyone interested in volunteering can call either Martin Mooney or Tom Knapik.

NEWSLETTER Joey Betzler introduced Dan Hammonds who has been helping him with the newsletter mailings. He also mentioned that Elizabeth Glover delivered this month's mailing to the Post Office. He appreciates this help very much, however more volunteers are needed to help get this publication out. He also asked that those members who are not getting their newsletters on time, please contact him.

PLANTS OF THE MONTH -- UGLY PLANTS! In lieu of the regular "Cactus and Succulent of the Month", Tom Knapik and Joey Betzler gave a presentation whereby a group of ugly plants, brought in by various members, were contrasted against the bragging table plants. Subjects covered were proper light, sunburn, bug damage, plant condition, and staging. All members were encouraged to start working on their plants and plan to enter some of them in our Show. Following the presentation, Amna Cornet won a ribbon and a \$10.00 coupon for our plant sales table for bringing in the ugliest plant.

PROGRAM Tom Knapik introduced Dorothy Byer and Phyllis Flechsig who gave a slide presentation covering a two week tour of southwestern Namibia and the western Cape Province which they took while attending the "Succulenta '96" Congress put on by the Succulent Society of South Africa. The slides included many of the plants and some of the animals of these areas.

Tom thanked Dorothy and Phyllis for their excellent presentation and reminded the members to bring in boxes for the Annual Plant Sale.

There being no further business, the meeting was adjourned at 3:45 p.m.

Beverly Kirkegaard, Recording Secretary

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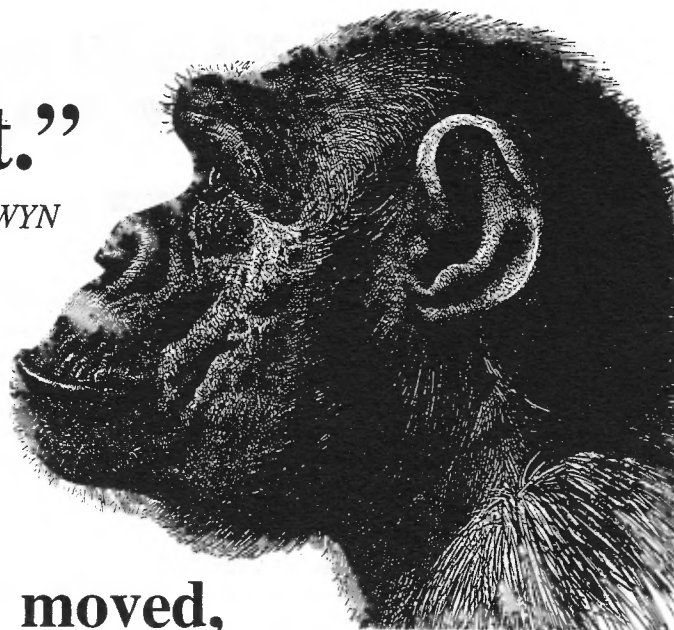
The SDC&SS invites advertising in *Espinas y Flores*. Postal regulations re: non-profit bulk mail state that ads must be related to the functions of this Society (*education about / propagation of cacti & succulents*). SDC&SS's Conservation Policy does not allow the sale of field collected plants; all advertisers are expected to follow this policy. Rate for business card size is \$40 / six months or \$70 / one year. Ads should be submitted camera-ready; contact Herb Stern (619)223-9134 for additional rates & information.

“Include me out.”

— ATTRIBUTED TO SAMUEL GOLDWYN

WISE AND OTHERWISE

by Michael Buckner



If the boulders are moved, Even a river will change its flow.

— DENG MING-DAO

“Ten years ago, when we first took over the duties of editor of the Cactus & Succulent Journal, the circulation of the magazine had just for the first time broken 2,000. We are proud and pleased to announce that with this current issue we have just passed our goal of a circulation of 5,000.

A circulation of 5,000 is quite respectable for a specialist publication, but it is time again to raise our sights to 10,000 in the next ten years! To this end we have many exciting projects in the works, including our 50th jubilee volume, beginning January of 1978, and our 50th anniversary issue in May-June of 1979.

While we continue to try to make our journal a worthy organ of publication for the world's leading succulent botanists, we have redoubled our efforts to encourage a constant supply of interesting and informative articles for the beginner and for the keen amateur.”

Taken from EDITORIAL of Cactus & Succulent Journal (U.S.) Vol.XLVII, Nov-Dec 1975; *Editor*: Charles Glass; *Assistant Editor*: Robert Foster.

(Editor's Note: Today, twenty-two years later and we still have an excellent journal thanks to Myron Kinnach's editorship. But our Cactus & Succulent Journal (U.S. - CSSA) distribution today equals 3,450 issues total.)

. . . as William Stolzenburg of The Nature Conservancy has documented for two Hawaiian species of *Brighamia*. The two rosette-forming plants are collectively known from barely more than 120 individuals left in the wilds of Molokai and Kauai. They rarely set seed any more unless they are hand-pollinated by what Stolzenburg describes as the "death-defying acrobatics of human moths." The human moths, in this case, are biologists from the Hawaiian Plant Conservation Center who rappel over the brink of 3,000-foot precipices above the sea. Then, hanging from ropes, they brush precollected *Brighamia* pollen onto the stigmas of the few trumpet-shaped flowers growing out from the world's tallest sea cliffs.

These biologist-acrobats are trying to play the role once played by the native pollinators that *Brighamia rockii* and *Brighamia insignis* have lost over the last two centuries. Today, only half of Hawaii's original set of nectar specialists persist—and many of the remaining nectar-feeding birds, from the Hawaiian *alala* crow to the crested *akohekohe* honeycreeper, are officially listed as threatened or endangered. Stolzenburg reminds us that the idea of *linked extinctions* suggests that one species' demise is triggered by that of its evolutionary partners. "If ever there might have been a state set for exhibiting linked extinctions," he concludes, "Hawaii was it."

Stephen L. Buchmann & Gary Paul Nabhan from *The Forgotten Pollinators*. 1996, Island Press /Shearwater Books, Covelo, CA.

**Don't let a thread fall without noticing it.
Don't rake dry brown leaves carelessly.
Think how difficult it was
For something to take this existence.**

– DENG MING-DAO

WISE AND OTHERWISE

In spite of their rather soft, fleshy stems, most of the lobelia in the Hawaiian Islands are shrubs with candelabra-like branches, or striking palm-like trees becoming usually five to fifteen feet high. They are at their best in the rain forest and on fog-swept cliffs. One plant, *Brighamia insignis* A. Gray, found almost exclusively along the precipitous coast of windward Molokai, resembles an upright, naked pole with a cabbage at its end from the center of which long, white, fragrant flowers arise. All these plants contain a sticky, milky juice and bear rather large, coarse leaves. The flowers are peculiarly curved, bear five petals, and are usually fleshy. These petals are more or less united from their bases into a partial tube that is typically deeply slit on the upper side. In this and in other features, the *Lobeliaceae* resemble the *Goodeniaceae*, to which they undoubtedly gave rise.

The curved flowers of the Hawaiian lobelia secrete a quantity of nectar at the base as a means of inducing certain birds and flying insects to visit them, to become dusted with sticky pollen and unconsciously to transfer it to some other flower of the same kind. By cross-pollination the plants are able to mature vigorous seed. Because the flowers of the lobelia are curved, birds with a straight bill would be unable to probe them effectively for food. These islands, however, were inhabited, at least until recent times, by thirty-five kinds of strange, nectar-feeding birds belonging to the endemic *Drepanididae*, or Honey Sucker Family, of which the famous *mamo*, *iiwi*, and the common *apapane* are representatives. Many of these birds possess beaks having a curve similar to that of the lobelia flowers in the base of which they find their food of nectar and secreted insects. Because both the honey suckers and the lobelia are distinctly Hawaiian and have inhabited these islands for an incredibly long time, as their numerous specialized groups indicate, it is virtually certain that the curve in the bill of some of these birds was evolved to fit the curve of the flower. This is an unusual illustration of interdependence of birds and flowers. Moreover, so that these birds can also suck the nectar from flowers having a different curve from that of most lobelia, the outer third or fourth of the long upper bill of most of these is flexible, not unlike rubber.

Otto Degener, B.S., M.S. from *Plants of Hawaii National Park - Illustrative of Plants and Customs of the South Seas*. 1973, Braun-Brumfield, Inc., Ann Arbor, Michigan.

At the heart of this issue is our understanding of floral diversity. Simply put: why have flowers taken so many forms? To answer this question, we must recall what flowers are meant to do, and why such complex structures first evolved more than 100 million years ago. Flowers contain the plant's sexual organs and, within female organs, the potential seeds or gametes. The floral architecture must protect them from drying, scraping, freezing, burning, or browsing by herbivores. At the same time the flower's petals and sepals are protecting these organs, they must allow access so that pollen can come and go. More than that, the flower's shape must increase the probability that pollen will arrive on receptive stigmas at just the right time. Then the flower must continue to protect the stigmas while the pollen grains send down pollen tubes containing sex cells that migrate downward through styler tissues to eventually fertilize the ovules. Finally, closed flowers often continue to protect the developing seeds from the range of stresses that plague flowers and fruits prior to their opening, from insect predators to drying winds.

S. L. Buchmann & G. P. Nabhan, *The Forgotten Pollinators*, 1996; Shearwater Books, Covelo, CA.

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The San Diego Cactus and Succulent Society, Inc. is open to all persons interested in growing cacti and other succulent plants. Meetings are held the second Saturday of each month (except June, Sept. and Dec.) at 1:00 PM in room 101, Casa del Prado, Balboa Park. Executive Board meetings are open to all members; call any officer or director for the time and location. Annual dues are \$10.00 per single member per year, \$5.00 for each additional member within the same household. Single copies of *Espinas y Flores* are \$1.00 per copy sent within the USA; foreign subscriptions are \$25.00. Affiliated with the Cactus and Succulent Society of America, Inc. Editors, (619) 222-3216 Fax or Phone.