

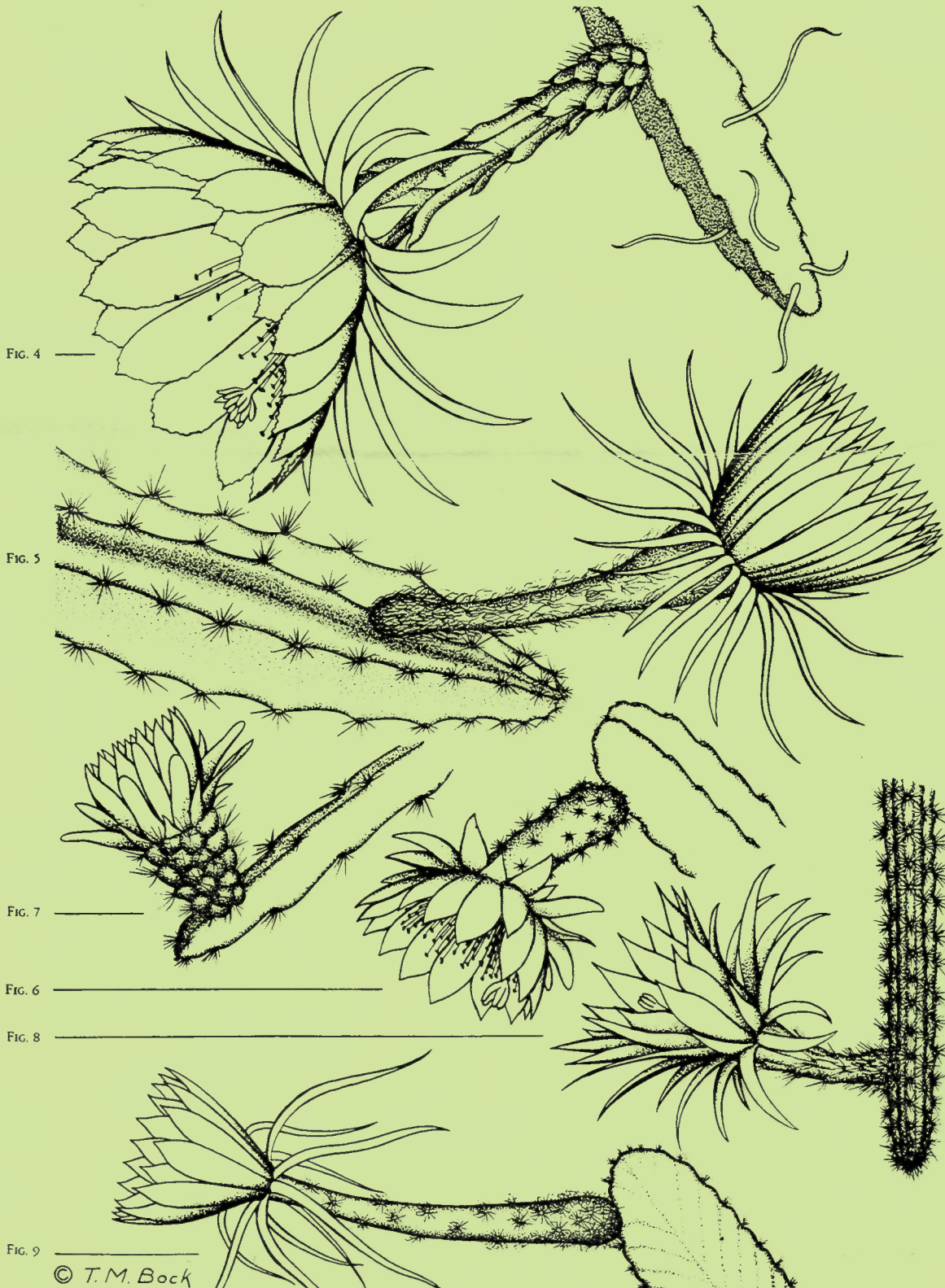
Mammillaria thornberi

ESPINAS Y FLORES

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

A Non-Profit Mutual Benefit - Public Benefit Corporation

VOLUME XXXIV NUMBER SEVEN SATURDAY, JULY 10, 1999 @ 1:00PM



July Program: Duke Benadom

South Africa 1996

Many of you will remember the excellent program Duke gave on Namaqualand in February of 1998. Duke & wife, Kaz, reside in Simi Valley; they have been actively involved with several Southern California cactus & succulent societies for over twenty years. Presently, Duke serves as Vice-President of our national society, the CSSA. His photography is excellent and his dialogue clear and informative. He writes & does the photography for a bi-monthly column: *Cactus and Succulents for the Amateur* which appears in each edition of the CSSA Journal.

Duke tells us that this month's slide show presentation will be an extension – or continuation of his botanical exploration of South Africa in 1996. It will begin near Vanrhynsdorp in the western Cape, go to Cape Town, and then head east along the southern portion of South Africa. Traveling north along – or near – the east coast Duke's expedition goes through Swaziland, and into Kruger National Park. They get within one mile of Zimbabwe, and then looped back down through the former Transvaal going into Botswana. Duke's trip finishes back in Johannesburg. He traveled more than 7,000 miles, visiting five countries. Join us for this exciting program. Invite a friend!

Our cover: From the book *CACTACEAE* with illustrated keys of all tribes, sub-tribes and genera, by W. Taylor Marshall & Thor Methven Bock, arranged & published by Scott E. Haselton; 1941, Abbey Garden Press, Pasadena, U.S.A. Illustrations by T. M. Bock are of flowers from species in the sub-tribe Hylocereanae (like our Cactus of the Month). Fig. 4 – *Mediocactus coccinens*. Fig. 5 – *Deamia testudo*. Fig. 6 – *Wercklerocereus tonduzii*. Fig. 7 – *Weberocereus tunilla*. Fig. 8 – *Aporocactus conzattii*. Fig. 9 – *Strophocactus wittii*.

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

MICHAEL & JOYCE BUCKNER, EDITORS
2327 "N" AVENUE, NATIONAL CITY, CA 91950
PHONE /FAX NUMBER: (619) 477-4779

Publication deadline for August Issue is Saturday, July 10, 1999.

PLEASE NOTE: The San Diego Cactus & Succulent Society always holds their Annual June Show & Sale on the **FIRST** weekend in June. A yearly calendar is included in our January issue. Calendar gives show dates, cactus & succulent of the month schedules, and some speaker information. All regular meetings are held on the second Saturday of the month, and there is no regular meeting in June. In September we have a picnic instead of a regular meeting. This year, I am told, the picnic will probably be held in or near Balboa Park – All picnic info will be the September issue.

Espinas y Flores, the newsletter of the San Diego Cactus and Succulent Society, Incorporated, P.O. Box 33181, San Diego, CA 92163-3181, is published monthly with the exception of a combined May-June issue (11 issues per year). Newsletter circulation is approximately 350 with about 300 issues going to members (one issue per household) and an additional 40-50 issues going to educational institutions, botanical societies, cactus & succulent nurseries, local publications, related natural history events & exhibits, and other interested groups or individuals upon request. Subscriptions (membership dues for an individual) are \$10 per year for bulk mail within the USA.

Opinions stated in the articles and editorials of *Espinas y Flores* are solely the opinions of the authors or editors and do not necessarily represent the opinions of other SDC&SS members, the Board of Directors, or the organization in general. All materials submitted to *Espinas y Flores* for possible publication may be edited for form and content. All material in the *Espinas y Flores* may be reprinted by non-profit organizations (unless such permission is expressly denied in a note accompanying the material) provided that proper credit is given to the SDC&SS *Espinas y Flores* and the author, and one copy of the publication containing the reprinted material be sent to the editors. Reproduction in whole or part by any other organization or publication without the permission of the editors is prohibited.

Just after the May meeting we received a very nice fax from **Susan Hopkins**. And since we could not have said it any better, I've copied it – word for word: “I would like to extend a great big **THANK YOU!!!!!!** to **Ric & Marilyn Newcomer** for two outstanding presentations at the last two club meetings. I found them very interesting and informative. [I think that we all did!] I am sure that the rest of the members also appreciated the time they spent in preparation, and the work involved in transporting so many wonderful plants for us to see. I thought Ric's slide show was great, and I especially want to thank them for the pictures of their own greenhouses and grounds. [What a lovely life! And a lovely home.] Once again **THANK YOU!!!!**” But that's not all! There's more! Ric donated his honorarium check – the payment from our club for his May presentation – to the Monthly Benefit Table.

☺ ☘ **Hip Hip Hurray! For Ric & Marilyn Newcomer!!** ☘ ☺

We also received this note of recognition re: Judge's Lunch: “We all enjoyed joining the judges for a very fine buffet lunch catered by **Pam Badger**. Special thanks to **Laura DeMerritt** for all her help in setting up and cleaning up, as well as providing munchies for the judging team in the morning. Special thanks, also to **Sandy Frost** for the “Three B's” – “Bread, Beans & Brownies” – she covered all the basic food groups! Thanks also to all of the members who brought yummy desserts to share.”

Thank You! Monte Woodworth & Jerry Williams for submitting your cactus & succulent-of-the-month article early and on time! Both are excellent articles and a refreshing change from the norm! Articles for the August meeting are: **Virginia Innis** on **Monvillea & Other Edible Cacti** and **The Genus Tillandsia** by **Gary Noel** – hoping to see you both (and your articles) at the July meeting! August program will be **A VISIT TO SOCOTRA – THE ISLAND OF DRAGON'S BLOOD** by **Gary James**. We have just received a terrific article from **Fred Keller** – one of our guides at LotusLand – to appear in the September issue, along with a couple of book reviews. **Ed DeLollis**, how's that review on **The History of Succulents** coming? We need someone to review Miles Anderson's **The Ultimate Book of Cacti & Succulents** – Any volunteers???

☞ Please Note: Any and all submissions to *Espinaz y Flores* may be edited for form & content. If you submit an article on disk, please include a hard copy and save as a **TEXT** file (i.e. file.txt). All submissions which are faxed, or hand-written must be re-entered by me, so please allow a little extra time. If you wish to submit an article “camera ready,” please single space and carefully review your spelling and grammar – if there are too many errors, we will not publish it! For photographs and artwork – originals work best, and we will gladly return them after printing. If you must use photocopies, be sure they are clean & clear. We hate seeing photos that look more like a dream sequence interpretation than a plant or person!

SDC&SS Members are a very busy & diverse group of botanically active individuals! Here's just a couple of examples:

☘ **Virginia Innis** participated in Art Alive 1999 at the S.D. Museum of Art (Apr 28 - May 2). Various designers create a floral arrangement designed to specifically compliment one of the museum's paintings. If you have never attended this event – do not miss it next year! Designers utilized every kind of flower, leaf, fruit & vegetable in their interpretations. This is just about the most fun we plant people can have in an art museum! Great arrangement, Virginia! And a lovely vase, too!

☘ **Rudy Lime** created a wonderful display of succulent pelargoniums & sarcocaulons for the S.D. Geranium Society's Annual Show & Sale held on May 15-16. Members & visitors alike were fascinated by these phenomenal plants - many in flower.

☆ On June 10, 1999 a Dedication Ceremony was held at the El Monte Pump Station for starting up the brand-new state-of-the-art pumps. **The H. Warren Buckner Pump Station** was named after SDC&SS past president & Life Member, **Warren Buckner**, who in their words is “one mighty fine Director” and “Man of integrity since forever. Dedicating this \$30 million project to him was quite an honor and a surprise. The Helix Water District Staff did a terrific job of keeping it a secret and arranging to have his family present – you should have seen the perplexed look on his face when they uncovered that marble plaque with his name on it, and he realized the his sons and a grandson were in attendance! We are all very proud of you, Papa!

☞ Congratulations to **Jeff Moore of Solana Succulents**. His succulent garden landscape in the flower show of the Del Mar Fair received the Royal Horticultural Society Award and First Place for Best Xeriscape in the commercial division – a very nicely put together succulent landscape. Jeff's other entry, a patio garden with succulent plantings & a lovely standing, copper, Japanese fountain, also got two awards: Best Patio Garden & Best Use of Color in a Patio Garden.

And We Thought This Policy Only Applied to Ball Parks! We have learned from the June 1999 newsletter of the S.D. Chapter of the California Native Plant Society that the City of San Diego is planning to build roads on 30 miles of canyons. “Permanent roads will not only replace natural habitat, but the spreading invasion of exotic weeds from the maintained road & shoulder may be the death sentence for adjacent native plants and dependent animals. . . . These canyons are treasured by local residents. Native plants, birds, reptiles, and mammals thrive in these areas, despite the occasional swath of clearance for repair. . . . 30 miles of roads would eliminate at least 100 acres of vegetation, **yet the City has not filed an Environmental Impact Report on this threat to its famous Multiple Species Conservation Plan.** . . . The Sierra Club is spearheading community efforts to organize opposition. If you enjoy your canyons just the way they are, we urge you to contact your City Council member and **write to the City's Councils Committee on Natural Resources & Culture. Demand an Environmental Impact Report.** Cali: (619) 685-7321 or Sierra Club (619)299-1741.

July 3 & 4: CSSA Annual Show & Sale @ Huntington Botanical Gardens, 1151 Oxford Road, San Marino. Set-up Friday, July 2; any member of a CSSA affiliated society is welcome to show; (626) 405-2160 or 405-2277. See you there!!

July 11: Concert Under the Oaks @ Quail Botanical Gardens featuring Light Jazz by Holly Hofmann & Peter Sprague. First in a series of four Sunday concerts, all beginning at 5:00 pm. Tickets are \$15 or \$48 for all four concerts. Price includes light supper, dessert & coffee. For more information: (760) 436-3036.

July 17: Los Angeles C&SS Rare Plant Auction & Bar-B-Que – Sepulveda Garden Center, 16633 Magnolia Blvd., Encino. (310) 455-1176 or (818)363-3432.

July 24 - 25: Northern California Cactus & Succulent Show & Sale – 9am to 5pm in the San Francisco Fair Building - Golden Gate Park, 9th Avenue at Lincoln Way, San Francisco; info: **Michael Louie @ (605) 358-9175** or (510) 236-6090.

July 25: Concert Under the Oaks @ Quail Botanical Gardens – Classical music by the Philharmonic Wind Octet.

July 31 - August 1: Begonia Show – Orange Co. American Begonia Society – UCI (Irvine), North Campus (949)824-5833.

August 8: Concert Under the Oaks @ Quail Botanical Gardens – Jimmer Bolden & Kathy Echert perform vocals with the Joe Azarello Trio; from jazz to Broadway to Gershwin. Begins @ 5:00 pm - \$15; info (760) 436-4036.

August 14 & 15: The 14th Annual Inter-City Show & Sale at Los Angeles County Arboretum - "Color Me Cactus ~ Color Me Succulent." For an Inter-City Show Newsletter & Show Schedule contact **Carol Wujcik @ (714) 963-3146 - email: cawujcik@aol.com**. Show or sales information contact **Woody Minnich @ (805) 944-2784** or **Dick Hulett email: <airolbatic@aol.com>** – for general info, directions, etc., you may contact us: **Michael & Joyce Buckner (619) 477-4779**. Don't miss Sat night banquet & plant auction! Walk & Talks: Sat 11am - Gene Joseph; Noon - Tom Glavich; 1pm - Bill Hagblom - Red, White & Pink Adeniums; Bill Baker & Joe Clements - Color your Landscape; 3pm - Joe Stead - Propagation. Sun: 11am - Miles Anderson "Color Them Grafted"; Noon - **Michael Buckner & Woody Minnich** - "The Color Blue" Trophy Table; 1pm - **Michael & Joyce Buckner** "Color in a Bowl"; 2pm - **Rudy Lime** "Color him SMOLA".

August 22: Concert Under the Oaks @ Quail Botanical Gardens – The Silverwood Musical Ensemble performing Irish music, from Celtic airs to dance music. Begins @ 5:00 pm; \$15 includes light dinner, dessert & coffee. (760) 436-3036.

August 22: Long Beach Cactus Club – Rudolf Schulz "Brazil, the Uebelmannias" - Slide lecture; meetings begin @ 1:30pm; Dominguez Adobe, 18127 South Alameda Street, Compton, CA 90221. Info: Dick Hulett (310) 832-2262.

August 28 - 29: UCI Arboretum Summer Bulb Sale – 10am - 3pm; Admit \$2; North Campus - UCI, Irvine (949)824-5833.

September 4: Succulent Symposium at the Huntington Botanical Gardens - 1151 Oxford Road, San Marino, CA 91108, at the south end of Allen Street; Educational programs, Sales, Rare Plant Auction, Tours, etc. (818) 405-2160.

September 25 & 26: Del Mar Orchid Show & Sale (formerly Quail Garden Orchid Show) now at the Del Mar Fairgrounds; Sat 9:00 - 5:00; Sun 10:00 - 4:00. Admission to Orchid Show is free; parking is \$5.00.

October 16-17: Orange County C&SS Annual Show & Sale @ Fullerton Arboretum 14th Annual Arborfest; Yorba Linda Blvd / Associated Road - One Block West of the 57 Freeway. Show info: Kathy McNair (714) 534-4477; sales info: Toni Garretson (714) 539-8773; Arboretum info: Chris Barnhill (714)278-3404.

October 23 & 24: San Gabriel Valley C&SS Sixth Annual Winter Show & Sale - L.A. Arboretum, Baldwin Avenue, Arcadia, CA. Contact: **Woody Minnich (805) 944-2784**.



The June Show Results

This year's annual show and sale was a great success. We had near record sales on Sat. and we had 530 plant entries in the show. Many participants had never shown plants before, but what a great job they did. There were some truly wonderful displays, the most notable being; **Pam Badger's** educational display, **Alan Weiss's** spectacular pachypodiums in bloom, **Monte Woodworth** and **Jeff Wright's** miniature display. Everyone who participated in one way or another should be proud of our club's accomplishments. I encourage everyone else to get involved next year in this growing event.

There are many people to thank for this year's success. First, our judges; **Miles Anderson, Larry Grammer, Dick Hulett, and Woody Minnich.** Thanks for making the long trip to San Diego and awarding our trophies and ribbons. Second, the task leaders; **Joey Betzler, Tom Birt, Herb Stern, Laura and Tom DeMerritt, Kay Quijada, Pam and Lee Badger, and George Plaisted.** These individuals have volunteered their evenings, weekends, and hours of time to make the show a reality. Without them I know the show and sale would not run as smoothly if at all. Thanks for all your hard work and dedication. Next, the support group who basically run everything the day of the show and sale. You are the frontline of our club, our contact with the public, judges, and vendors. You represent our club with distinction and without you we would have no show at all. Thanks for your generous help and involvement:

Carol Jean Wolcott

Sue Hopkins

Chris Miller

Tom Stiko

Wilber Glover

Joe Kraatz

Sara Schell

Betty Athy

Alex Murphy

Virginia Innis

Beth Dargan

Ann Stiko

Michelle Heckathorn

John Williams

Monte Woodworth

Cindy Wead

Jeff Harris

Rudy Lime

Ethel Standish

Elizabeth Glover

Kelly Parrott

Collet Parr

Dan Hammonds

Curt Hammel

I want to also thank all the vendors for their great sales items. I hope that you all did better financially than you expected and that you'll come back next year.

The following people were recognized by our judges and have received plaques or trophies for their award winning plants:

| | |
|------------------------------------|---|
| Joe and Kay Quijada | Best Cactus, Best Mammillaria, Best Sanseveria, Best Plant from Seed |
| Rudy Lime | Best Succulent, Best Pachycaul, Best Succulent Bonsai, Best Exhibit |
| Steve and Rowena Southwell | Best Epiphytic Cactus, Best Agave, Best Pelargonium, Best Mexican Plant |
| Monte and Mary Woodworth | Most Artistic display, High Point, Sweepstakes Trophy |
| Marylyn Henderson | Best Echeveria, Best Euphorbia, Best Baja Plant |
| Betty Athy | Best Mesembryanthemum |
| Betty Roberts | Best Novice Cactus |
| Sara Schell | Best Novice Succulent |
| Dick and Lupe Hulett | Best Opuntia |
| Terry and Collet Parr | Best Aloe |
| Kelly Griffin | Best Graft |
| Michael & Joyce Buckner | Best Miniature |
| Pam Badger | Best Educational Display |
| Elibet Marshall | People's Choice Award |

Great job everyone, hope to see you all next year when we do it all again. Tom Knapik, show chair

Nellie Kennett

1917 - 1999

I guess that the best way to present this collage of Nellie's legacy, is to simply transcribe the letters and events in the order that they were received.

May 13, 1999

Dear Sirs,

Please remove my mother's name from your mailing lists. She past away on March 19, 1999. Her name is Nellie J. Kennett. She turned 82 on March 16, 1999 and died three days later after a long bout of pneumonia caused by a blood clot.

She was a long-term member of your organization. I remember her donating plants for exhibits at the Del Mar Fair in the 1970's, when your friendly rival was the Palomar Club, and my little sister helped with the displays. Even though she moved to an apartment eleven years ago, she had a balcony filled with cactus & succulents. While her main plant collections remained with her son, John, who purchased the "old family home."

My mother was known as the "Hug Lady of National City". Mayor Waters even made a proclamation to that effect. Thought you would like to know of her passing. There may still be some around who remember her.

Her daughter, Judie Sigwalt
(619) 697-1930

P.S. She never threw out any "Espinass y Flores" over the years. If you know of anyone who might like them, let us know.

I called Judie, offered my condolences and made arrangements to retrieve the newsletters. Judie was friendly. She said that her mother always had a great love for plants. She had grown orchids, geraniums, begonias, hoyas, epiphyllums, cacti & succulents, etc. In the last few years she was too frail to care for most of her plants and many perished or were given away. But her cactus & succulents thrived with the neglect and filled her apartment balcony & window sills.

She also told me that even when her mother was very ill in January, she demanded that her SDC&SS dues be paid so that she would not miss any issues! I got the feeling that Judie initially resisted her mother's wishes - Rose D'Attilio once told me that her husband was "So old" that she no longer purchased a bunch of bananas, but rather just one or two at a time! By renewing her Mother's membership, she would later have to close that door and write the letter - the letter which I was holding in my lap as I spoke to her on the phone.

Nellie looked forward to getting the newsletter and would always read it. This made me feel good. I hoped that I could reciprocate and make her feel good, too. I made copies of the letter and sent one to Joan Fler and one to Nibby Klinefelter.

May 19, 1999

Dear Joyce & Michael,

It was 1968 when Doc Vaughn, the former Night Owl of radio from Catalina Island, was SDC&SS President, that I met Nellie Kennett. I wish the lead-in to the action was as vivid in my memory as the cartwheel. This a most unexpected happening - suddenly, during a meeting in the Floral Building where we met at that time - Nellie did a cartwheel - right there on the podium! It was a magic moment which electrified us and made for a lasting memory. She did it so well - so lightly - so naturally. A most elegant cartwheel for a woman over 50!

Nellie was active in Society events. She was most observant of all that was going on around her, which lit a sparkle in her eyes. She was a fun lady, and I now regret that I did not get in touch with her when I rejoined. Do look up old friends before it's too late!

Nellie came up to my office in the Naval Hospital several times. I remember one time in particular because it was her birthday. She told me that Jim Stalsonburg (*A former SDC&SS President - now deceased*) had sent her a bouquet - they shared the same birthdate. The bouquet came to her "out of the blue" as they had had no contact in years.

My God, we oldies are dropping off like flies. Have been thinking about writing my own obituary.

Sign Me - Alive & Still Kicking, Nibby

Dear Nibby,

Where do you suppose that expression "dropping off like flies," comes from? Wish these damn flies would drop. Is it an old DDT expression?

Say, good idea about writing your own obituary. Please give me a copy when you're done. I'll put it on disk and you can revise it about once a year, when you're feeling morbid. Wish everyone would write their own! It would sure make it easy! When someone kicks off, I could just print it out and put it in the next issue. No fuss - no muss! Thanks, Nibby, for writing about Nellie. Love you, Joyce

Nellie Kennett

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We hardly saw one another anymore, but when we did – it was always a joyful reunion. I have known Nellie since I first began attending SDC&SS meetings in 1960. At that time my garden was bare except for a few stands of Jades and *Portulacaria afra*. Under Nellie's supervision all of that changed! She gave me boxes & boxes full of cuttings, and advised me to make a hole in the hard adobe soil of my yard with a screwdriver and plant the cuttings. "No problem," she assured me, "They will grow." She was right, of course. She belonged to a "Hoya Round Robin" and exchanged plants with people in different parts on the country. Thanks to Nellie, I counted fifteen different species of Hoyas, at one time in my own garden. Nellie knew all their proper names.

Nellie never said "No." Whenever someone, or some club needed help, she was there. She contributed much time & materials to our club exhibits for the Flower Show at the Del Mar Fair. She often brought her younger daughter, who really enjoyed helping. Nellie's daughter did not get bored or restless, like most kids her age. She was visibly proud of her mother and really enjoyed helping with the exhibits.

Nellie was great fun to be with – a real clown – doing headstands and cartwheels. She was a non-stop talker, and sometimes we would have to ask her to be quiet when the speakers were giving their slide show lectures. She would cheerfully comply. You really could not be angry with her! Whatever she did, she did with fanfare; she was not one to be ignored. She just seemed to enjoy seeing people happy. Nellie had a big heart and was never pleased until she had hugged everyone around her!

I'll miss you, Nellie!
Joan Fleer

Contributions to the Refreshment Table
Most Graciously Accepted!

THANKS, APPRECIATION & ACKNOWLEDGMENT

By Joyce Buckner

Once again our June Show & Sale was a big success – both fiscally and in terms of generating a great deal of interest in succulent plants. I've written this article in recognition of all the individuals who helped make this possible. With that in mind the first great big **THANK YOU** goes to all of the SDC&SS Show Vendors - 1999:

Betty & Brent Athy (Desert Plant Place), **Ester Avery** (Avery's Cactus & Succulents), **Michael & Joyce Buckner** (MJB / TEX Buckner Ceramics), **Phil & Nubia Bunch**, **Phil Favell**, **Phyllis Flechsig**, **Gloria & Kenny Graham**, **Dick Hulett** (Dick & Lupe's Pet Plants), **Joe Kraatz** (Joe's Plants, Pots, & Stamps), **Rudy Lime**, **Woody Minnich** (Cactus Data Plants), **Alex Murphy**, **Bobbie & Gary Noel** (Noel's Tillandsias), **Si Osgrove**, **Sara Schell**, and **Steve & Rowena Southwell & Norma Lewis** (RSVP).

We should be very grateful for all of our growers. Without vendors, membership dues would have to be much higher, our library much smaller, and the quality of our programs much lower. Without vendors, our show would be quite deplete (vendors were requested to participate by showing at least 8 plants), and our sale would be very limited – at best.

Take a good look at your plant collection. How many of your plants came from club growers? There are many fine plants that we have in our collections which simply are not available from commercial nurseries. Perhaps because we have owned them for sometime, they don't seem so rare and exotic. But think about it for a moment – how many of your most prized plants could you purchase at a local Home Depot or nursery?

Many of the most rare & coveted succulent plants require very specialized propagational care which is simply not feasible for the large commercial grower. Because of these unique cultural requirements, cactus & succulent shows & sales are often the best source - sometimes the only source - for obtaining rare specimens. An additional plus for many, is that the growers are present to give you good growing advice. Vendors /growers are among a club's most knowledgeable members – because they make their living by growing plants – they have to know their stuff!! Vendors, just like the plant material they produce, are an invaluable resource that should be nurtured and applauded.

Last week Michael & I participated in the first annual show & sale of the Los Angeles Cactus & Succulent Society. I overheard a conversation between two vendors: They stated - not as an insult or offensive remark - but simply as a statement of fact, "The San Diego Society was not a vendor-friendly club."

I found it sad that we were thought of that way – but their words rang true! The June Show Results published in this issue offers a sparse blanket acknowledgment to all the vendors. In contrast, a distinctly different treatment was experienced last weekend (June 19-20): A couple of the L.A. club members stopped by each seller's booth on Sunday morning – taking brunch orders – a selection of omelettes, sandwiches, burritos, and homemade salads. They cooked up our lunches in a little trailer parked nearby, and delivered them to all the vendors with a "Thank You" and a smile! I was in shock! Not being used to such good treatment, I had gone down to the local Ralph's and purchased drinks, chips, salsa, and sandwich fixings for ourselves and some of the nearby seller's who had shared their pizzas with us on Saturday. Gratefully, I took my excess groceries over to the trailer where they were added to the menu. **Thank You Los Angeles Cactus Club** – it was fun, except for the traffic!

As vendors, we (Buckners) contributed more than \$900 to the SDC&SS's treasury this June. We brought in approximately 1,200 sale plants (and sold 600+) which all had to be cleaned, dressed with top rock, and labeled with both a plant name and a special bar code pricing label. By the time we were finished I counted twelve books we had referenced for the correct plant names. And, to date, we have invested nearly \$100 for the barcode labels required by the SDC&SS. Then there was the hauling (Thank you! Monte), and a percentage of loss due to pilfering, sunstroke, accidents and what have you. Michael and Dick Hulett arrived by 8:00am on both days; they hauled numerous tables besides their own, and answered numerous questions about plants besides their own. We did not leave the park until after 6:00pm on either day. Sunday I brought in two large pizzas which disappeared in less than three minutes!

THANKS, APPRECIATION & ACKNOWLEDGMENT by Joyce Buckner continued

I know that we are not the only ones to put out this much effort to make the sale a success. **Woody Minnich** left Littlerock (near Mojave) at 4:00am on Saturday morning to arrive in time to set out his sale plants and enter his show plants, before beginning his duties as one of this year's judges. The **Southwells** traveled all the way from San Jose, and **Dick Hulett** had to negotiate Friday afternoon L.A. traffic jams to get here from San Pedro. Papa (Warren) & Virginia Buckner have a plaque with an Indian Prayer on their kitchen wall, "Grant that I may not criticize my neighbor until I have walked a mile in his moccasins." Put yourself in the vendor's shoes for just a moment - you will soon be giving them all the respect & recognition that they deserve. Hats off to all the vendors!!!

And a very special **Thank You** to **Chuck Everson & Jerry Williams of Rainbow Gardens Nursery & Bookshop** for setting up an entire bookstore full of the very latest in cactus & succulent books and resources at our show. What was once a dead corner during our shows in Room #101 - a messy little area where members would stash their extra plants, supplies, lunches, etc. - is now a vital & integral part of our show! Every time I went into the showroom, I noticed their tables buzzing with interest & enthusiasm.

Beginners stop by with questions - often offering a glib, demonstrative description of a "perhaps cactus - perhaps succulent" plant. Chuck patiently offers a book full of photographs, names & descriptions; they browse through it and often find their plant. It comes as no surprise that the plant doesn't even remotely resemble their initial description. Laymen's terms are so lacking, that is why botany has its own very specific, scientific words.

Many new converts buy their first cactus & succulent book at a Rainbow Bookshop booth during a show. And many seasoned hobbyists take advantage of this opportunity to check out all of the latest publications, selecting the ones most suitable and adding them to their own library. Thank you Chuck & Jerry for this wonderful service - for educating us, and making resource materials accessible and convenient! . . . Oh, and by the way - Awesome Haworthias! Jerry!

THANK YOU to: **Jim & Roberta Hanna** for bringing all those wonderful little boxes that are cut just the right way for carrying plants. Jim & Roberta drive down every year - all the way from Long Beach - just to bring us these boxes and visit the show & sale.

Always in the past a complete list of show results has been published in *Espinas y Flores*. Wish I had a few statistics to go in right here!! The Gates C&SS (May 15-16 show in San Bernardino) had 30 participants who showed a total of 357 plants. Does that mean, that with nearly 50 participants, there must have been around 500 show plants? Unfortunately, we are working blindfolded this year. Show results were not provided to the editors. The core of any good show is its participants - there was certainly no shortage in this department. Show plants looked great - all clean & dressed up! Most were potted in beautiful ceramic containers of many colors, sizes and shapes. Every member who brought in plants for the show has performed a wonderful service for the club.

Many **THANKS - THANKS - THANKS** to the following exhibitors:

Betty Athy, Ester Avery, Lee & Pam Badger, Tom Birt, Michael & Joyce Buckner, Warren Buckner, Phil & Nubia Bunch, Amna Cornett, Ed & Debe DeLollis, Tom & Laura DeMerritt, Jeanette Dutton, Phyllis Flechsig, Sandy Frost, Gloria Graham, Kelly Griffin, Steven Hammer (*We saw his plants, but not his person!?*), **Jeff Harris, Michelle Heckathorn, Marylyn Henderson, Camille & Richard Horak, Dick Hulett, Virginia Innis** (*Who put in a collection & a display!*), **Beverly Kirkegaard, Tom Knapik, Joe Kraatz, Rudy Lime, Stefy Mangold, Elibet Marshall, Spencer Maze, Chris Miller, Woody Minnich, Alex Murphy, Bobbie & Gary Noel, Si Osgrove, Terry & Collete Parr, Don Patterson, George & Jerry Plaisted, Joe & Kay Quijada, Betty Roberts, Sara Schell, Steve & Rowena Southwell, Herb Stern, Ann Stiko, Tom Stiko, Greg Wade, Alan & Fé Weiss, Jerry Williams, John Williams, Monte & Mary Woodworth, and Jeff Wright.**

Also, a special thanks to **Dorothy Byer** who brought in her wonderful watercolor paintings for display. Thanks to **Wilbur Glover** for his terrific photographs, and **Tom DeMerritt** for his framed cactus prints. Thanks to **Dan Hammonds** for the many hours he spent high up on a ladder mounting Tom's pictures and displaying Wilbur's photographs. Thanks to **Erika Edwards** for cleaning-up - next year show plants, too!

☀ Did you see **Pam Badger's** lovely gasteria flower arrangement?

🕒 Did you see the wonderful old Jade Plant that **Alex Murphy** carved a face into?

Well, I certainly do *hope* that this is a complete list of member participants! Much appreciation goes to **Jeff Harris, Kay Quijada, Dan Hammonds and Pam & Lee Badger** for their help with piecing together this list - a jigsaw puzzle of past events. If you showed plants, and do not find your name anywhere, please don't get upset - rather let us know (call, write, or fax the editors - all info on page 2), so we can fix it! An addendum acknowledgment will appear in the August issue. If your name appears on this list and you did not show - then you owe us one!! See you next year!

There were members - old friends, vendors and past participants that we missed seeing this year:

Bob Taylor*, Floyd Gable, Perlso Lewis, Rick Plant*, Ted Nelson*, Carol & Joe Wujcik, Ted & Marilyn Alford, Michael Cullen, Nibby Klinefelter*, Stephen Johnson, Joe Flaherty & her wonderful paintings, Chris Barnhill, Dylan Hannon, Ed & Phyllis Sheldon*, Reni O' Connel, Carl Dykema, and Sabrina Berry.

Unfortunately, those whom we marked with a * contacted us after the show requesting their June newsletter & show schedule! They were expecting a reminder, or at least - a schedule. Although notices did appear in the May issue and show dates appeared in every newsletter this year, I believe that the Show committee should have sent out a reminder, but this didn't happen. As editors, our hands were tied - we wanted to publish the usual May/ June Show issue with schedule included. However, we did not receive a camera ready show schedule by press time. Believe me, this was not due to a lack of effort on my part! I tried pleading. I tried being real nice. I tried being bitchy!! All met with the same results: Zilch!

And finally, (This is sort of our own little wish list!) members that we would **like** to see showing their plants in the SDC&SS June 2000 Show. Will they take the challenge?

Ric & Marilyn Newcomer, Mark Palandri, Erika Edwards, Ed Nolan, Jim & Roberta Hanna, Bruni Scheffler, John & Mary Cooper, Julian & Leslie Duval, John Pluth, Carol Rodriguez, David & Kathe Roberts, Vicki Hill & Don Summers, Chuck & Dana Adams, Erick Altona, Gail & Don Bamber, Red Bernal, Nicki Delgado, Curt Hammel, Susan Hopkins, Carmen Hammond, Lynn Glowienke, Brent McCowen, Ron Burnight, Larry & Linda Nichols, John Bleck, Joe Stead, Thalia Criscenzo, Erik Gronborg, Rick Nowakowski, and **YOU - that's right! YOU!!**

Dear Editors, President, Officers, & Board of Directors,

Did we ever have ourselves a stunning show! Best ever. What a beautiful collection of plants that appeared more strikingly presented than ever before: vivid, exotic, brilliant, rare, eye-catching, prickly, weird, and unusually odd.

As for our members - how we do mimic our plants! A great bunch of odd, weird, prickly, eye-catching, rare, brilliant, exotic & vivid people! Yes, we did ourselves proud; so much serious work was involved, yet it appeared to be more like fun - as if we were having a grand ole picnic. Congratulations are in order.

Seriously, however, I have been contemplating a transition out of our fabulous club - the SDC&SS. My plants are getting overwhelmingly large and the teeny specimens prove to be too demanding of special care. This is difficult for an aging person - who is somewhat lame, halt, and often comfortably out to lunch. As with plants which finally do succumb to age and pest, I plotted a retreat - only to find it impossible to do.

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I am, therefore, putting myself back on your list of Survivors! Please sign me, Anonymous.

APOROCACTUS - "RAT-TAIL CACTUS"

BY JERRY WILLIAMS

Growing high in the rugged jungle terrains of Mexico and South America is one of the most unusual of all epiphytic cacti - the *Aporocactus*, or nicknamed the Rat-Tail cactus. Hanging from the stems and thick branches of trees, these beautiful plants are slender, vine-like cactus, creeping or clambering, sending out roots freely, thus being able to attach themselves easily to trunk depressions and ledges of rocks in the wild.

The oldest and most well known "rat-tail" is *Aporocactus flagelliformis* with its beautiful lavender/magenta bloom. This species is said to have been introduced from Peru in 1690, but presumably is originally from Mexico as all the other species of this genera are endemic to Mexico and Central America. In older days it was very common in Mexico to see this plant around the houses of the poorer citizens. It was planted in the end of a cow's horn and hung on the side of the house. The dried flowers were used as a household remedy and sold in *Boticas*, (drug stores) under the name "*Flor de Cuerno*", which translates to "flower of the horn".

There are only five recognized day blooming species in this genus. Flowers are rather small, diurnal, red to reddish-orange or lavender to reddish pink, and slightly irregular or zygomorphic with stamens longer than the petals. Flowers appear from early spring through early summer and last for several days. These five species are: *Aporocactus conzattii*, *Aporocactus flagelliformis*, *Aporocactus flagriformis*, *Aporocactus martianus*, and *Aporocactus leptophis*. The latter is now recognized as a sub-species of *Aporocactus flagelliformis*.

Probably the most unique and interesting aspect of the this genus are the numerous bi-generic species. The above listed five species have been crossed with such unusual plants as *Echinopsis*, *Heliocereus*, *Discocactus*, *Nopalxochia*, *Epicactus*, and *Cryptocereus*. Closely related and highly coveted by the *Epiphyllum* lovers is the unique cross of *Aporocactus* and the hybrid *Epiphyllum* - better known as *X Aporophyllum*. They combine the good qualities of both to create a genus which is quite different from either one.

The main flowering season for *Aporophyllum* starts in early spring, and on different occasions it is not unusual to see the same plant produce another batch of flowers in late summer and early fall. A good example of the beautiful coloring that has originated from this great cross would be: *X Aporophyllum* "Temple Glow" which has a remarkable bloom with inner petals of light pink and outer petals in light orange, appearing as two flowers together. *X Aporophyllum* "Pastel Rose" and *X Aporophyllum* "Pink Beauty," both bear magnificent pink blooms. *X Aporophyllum* "Moonlight" produces a lovely, very large, ivory colored flower. And finally, *X Aporoheliocereus* "Hazel" which is a cross between *Heliocereus* and *Aporocactus* bears an outstanding light orange-red bloom.

As to the care of these wonderful oddities, the easy part is at hand! SOIL MIX: The rat-tail cactus group will maintain a good, healthy growing pattern in a consistent mix where the pH consistency is in the 5.5 to 6.5 range. Soil must be coarse so that the air may circulate and the water will drain through the soil mix. Commercial potting mixes are fine and may be used by adding sponge rock and a small amount of washed builder's sand to the mix. For those of you who like prepare their own home mix, I offer the following recipe:

- 4 parts Leaf Mold (or Azalea-Camellia mix)
- 1 part medium or fine Redwood Bark
- 1 part Perlite (medium-grade Sponge Rock)
- 1/3 part Washed Builder's Sand
- 1 part Horticultural Charcoal (optional)

For each cubic foot of mix add:

- 1/2 a cup of Bone Meal
- 1/2 a cup of Osmocote 14-14-14.

CACTUS OF THE MONTH: *APOROCACTUS* BY JERRY WILLIAMS

CARE & WATERING: These plants prefer temperatures between 55 and 70 degrees F., but they will tolerate extreme heat if kept well shaded and the humidity level is kept at around 50%. Rattail cactus will tolerate a temperature below 32° for only a few hours; they will perish if exposed to temperatures below this for any period of time. Protect your plants from frost and freezing. Watering requirements will depend on many variables, such as pot type & size, weather, lighting, acclimation to your specific garden, and even the geographical location in which you live.

If you are in doubt as to how much to water and how often, we suggest that you check the soil every few days to see it is time to water. Remember, clay pots will dry out much faster than plastic pots, and may require watering at least twice a week during the hot summer months. We use plastic pots because they do not require constant attention.

FERTILIZER: Place your plant on a regular fertilizing schedule by feeding once a month - April through October - or every three months if you are using a slow release fertilizer, such as Osmocote 14-14-14.

PESTS: There are very few pests which seem to infest the "Rat-Tail" cactus. However, those that do can be very destructive. Scale are probably the worst pest of all. Use Malathion, diluted one teaspoon per gallon of water, spray as necessary. This should handle this pest. Maintaining a healthy plant, bright light and a clean growing area offer the best resistance to any other pests.

BLOSSOMS: The blooming season for rattails starts in April and continues through the middle of summer, depending on your locale. Most rattails require two to three years of growth and a nice rootbound condition before they begin their regular blooming cycle. Rooted cuttings may attempt to produce a bloom on the first year. These buds should be removed so that the energy of the cutting can go to stem and root growth rather than flower production.

LIGHT REQUIREMENTS: *Aporocactus* grow best in a bright position, but should be kept out of direct sun. Place your plants in a protected area where they receive either some morning or late afternoon sun. Never allow your plant to receive direct noonday sun. Plants may be grown under lath or shade cloth, a patio, under a shady tree, or in a greenhouse. Naturally they should be kept drier and protected during the cold winter months.

REFERENCES: The **Rainbow Gardens Catalog** contains many excellent color photographs of plants & blooms, and includes several *Aporocactus* species and hybrids, as well as other epiphytic cacti. You can pick one up by stopping by the Rainbow Gardens Book sales table at the CSSA Show @ Huntington Botanical Gardens in San Marino (Friday, July 2 through Sunday, July 4, 1999) or at the Inter-City Show @ the Los Angeles Arboretum in Arcadia (Saturday & Sunday, August 14 & 15, 1999). Cost for this catalog is \$2.00. To obtain this catalog by mail, please send \$2.00 to Rainbow Gardens, Dept. S.D., 1444 East Taylor Street, Vista, CA 92084-3308.

There are many excellent books on cacti that provide good information on *Aporocactus*, its hybrids, and bi-generic crosses. I suggest:

Clive Innes & Charles Glass, **CACTI**, 1991, Portland House, NY.

Gunter Andersohn, **CACTUS AND SUCCULENTS**, 1983 A.E.Black Lmted, London, England.

Gordon Rowley, **THE ILLUSTRATED ENCYCLOPEDIA OF SUCCULENTS, CACTI AND CACTUS LIKE PLANTS**, Leisure Books Limited, United Kingdom.

Miles Anderson, **THE ULTIMATE BOOK OF CACTI & SUCCULENTS**, 1998, Lorenz Books, London, England.

John Borg, **CACTI**, 1976, Blandford Press, Dorset, England.

The Monthly Benefit Drawing

May's Benefit Table found good homes for 22 plants. Grateful salutations to all of our star donors! First we give very **SPECIAL RECOGNITION TO RIC & MARILYN NEWCOMER** for generously donating their program presentation honorarium to the Society's Benefit Table. Wow! What a wonderful contribution! Additional contributions to the May table were:

Betty Athy for her *Escobaria minima*; **Shirley Berry** for four beautifully illustrated old cactus collector's calendars; **Michael & Joyce Buckner** for *Sempervivum tectorum* "Oddity" and a lovely white *Astrophytum ornatum* "Niveum"; **Nibby Klinefelter** for a *Greenovia* species; **Beverly Kirkegaard** for *Astrophytum ornatum*; and **Rudy Lime** for *Sarcocaulon vanderietiae*, *Ipomea swartzdam* and *Bowia volubilis*.

Remember, the Statue of Liberty sez, "Give us (one) of your huddled masses . . . yearning to be free . . . for our July Independence Holiday Benefit Table!

Thank you all! Thanks for your participation! **Kay Quijada**

BRAG TABLE WINNERS FOR MAY 1999: JUDGED BY MICHAEL BUCKNER

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SUCCULENT:

FIRST PLACE: Monte Woodworth's *Sansevieria cylindrifolia*
SECOND PLACE: Rudy Lime's Perfectly staged *Adenium obesum*
THIRD PLACE: Jeff Wright's Wonderful Display of Miniatures
(Mostly Crassulas)

CACTUS:

FIRST PLACE: Don Patterson's Prestine *Copiapoa cinerea* var. *columna alba*
SECOND PLACE: Joe Quijada's *Rhipsalidopsis rosea* in full bloom
THIRD PLACE: Tom DeMerritt's *Trichocereus* hybrid in brilliant full bloom!



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SEXUAL REPRODUCTION

"The Birds and the Plants and the Bees"

by Michael Buckner

Most all plants, approximately ninety-five percent of all the plant species on Earth are hermaphroditic, containing both male staminate and female pistilate sexual organs on the same plant. The remaining five percent of plant species are dioecious, meaning that they are unisexual, male plants producing pollen and separate female plants producing only ovules which upon successful pollination later bare the progenal seeds.

Many of the hermaphroditic plants on earth are not self fertile. Self fertilization is generally regarded as disadvantageous, even in the higher plants. To accomplish cross fertilization several schemes have evolved. The most successful scheme is to have the male and female of parts of the same flower, or of the male and female flowers on the same plant, to mature at different times. *Pelargoniums* are a good example of this cross pollination scheme, as Geranium pollen ripens at different times, insuring that there are many successive insect pollinators visiting the flower and then only after the last pollen grain is shed will the stigma become receptive to receive pollen grains from other Geranium plants nearby, guaranteeing cross-fertilization.

The benefit of cross-fertilization is obvious since outbreeding increases the gene pool and assures genetic diversity. Dual heredity ensures greater stability and adaptability to the constantly changing environment. Even if reproduction were solely asexual the earth would still be populated by genetically distinct and hereditarily changing organisms. The problem with "selfing", direct inheritance from the same uninterrupted line of generations, is that genetic change is slowed, infrequent, and entirely dependent on the rare occurrence of mutations.

Compared with asexual reproduction, the development of the sexual process in prehistory offered an immense opportunity for the diversity of life, a quantum leap of biospeciation as genetic recombination greatly accelerated the rate of evolution of species on earth.

In the age of the Gymnosperms, when the Cycads, etc. were ubiquitous on earth, fertilization of these primitive seed plants was entirely dependent on the wind and rain for dispersal of the male pollen. In the classic "Egg or the Chicken First?" scenario, flowering angiosperms arose concurrently with the first flying and crawling insects. Plants took full advantage of this new method of pollen dispersal and rapidly changed to lure these pollen taxis' to them. They also evolved methods to discourage the less efficient pollinators and the nectar robbers in many varied ways.

Thus through rapid evolution flowers developed nectar secreting glandular ducts, bright coloration with contrasting nectar guides and ultra-violet wave-length enticers, magnificent alluring "Green Flag" fragrances, edible petals, bracts, and flower parts with shapes desirable to their pollinators - even going so far as to mimic the insects female sexual partners. In the evolution of life fertilization of species was soon being carried out by anything that could fly: moths, butterflies, birds, beetles, flies, wasps, and, of course, the bees. Yes, "the birds and the bees." These arthropods then received the rich protein sources of the plants in the classic of all symbiotic relationships, food and energy source for distributing pollen from male pistals to female stigmas - sexual reproduction that was assured of a greater gene pool. Whew!

MINIATURE EUPHORBIAS:

A PHILOSOPHICAL AND PRACTICAL DISCUSSION

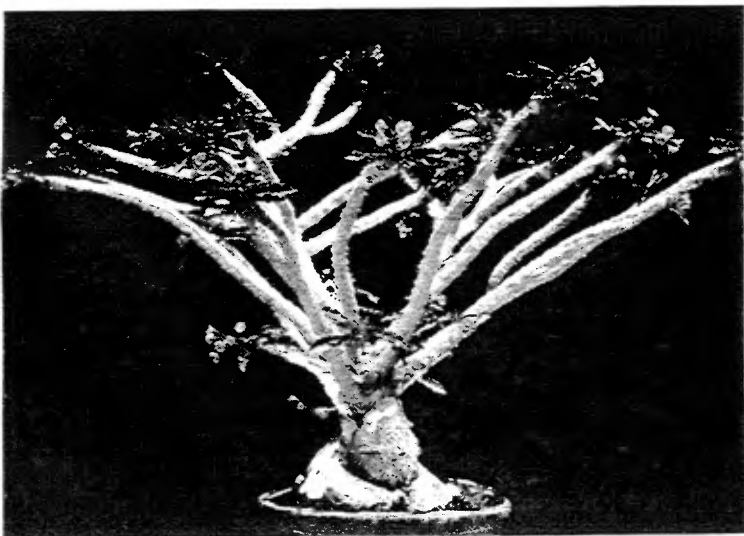
By Monte Woodworth

As hobbyists or professionals, we all grow plants for a variety of reasons: to study and learn, to collect, to teach and share with others, to surround ourselves with the things we like, for economic gain, as a diversion from the daily grind or probably, like most of us, some of all of the above. When I first started collecting succulent plants I had a fascination with euphorbias because of their vast diversity. In this one genus I found plants that resembled every other genus of succulent plants. So that's where I started, and even though I have broadened my collection to include many other wonderful plants, I still have a fondness for the genus *Euphorbia*.

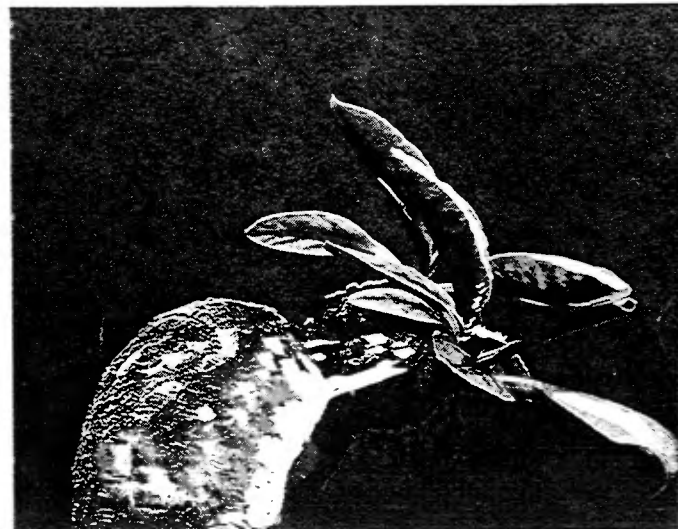
As with most aspects of my life, I consider the growing of plants an art form. Therefore, the act of miniaturization or *bonsai* is an extension of my way of seeing the world around me. As a naturalist, I enjoy seeing unusual and exotic plants in their native habitat and want very much to surround myself with their beauty, but their size

alone is a deterrent to putting them in my greenhouse. My practical side realizes that I can have many more plants in a limited space if they are kept smaller. Again, a miniature copy is my solution.

For these reasons I grow miniatures as an art form following basic, if not traditional, principles of bonsai. Gordon Rowley in his *THE ILLUSTRATED ENCYCLOPEDIA OF SUCCULENTS* suggests "giving them the 'bonsai treatment:' small pots, poor soil, little water and judicious pruning." Whether or not I agree with him completely is not important - the theory is a good one in keeping plants small. However, I would like to stress that it is a "living" art form. Unlike other art forms such as painting and sculpture that are completed when all the materials and principles of composition are assembled in their final form, plants as art are never done! They are dynamic; continuing to grow and change form so that each plant is a work in progress or performance art.



E. decaryi



E. quartziticola

Succulent of the Month: Miniature Euphorbias

by Monte Woodworth continued . . .

CAUDICIFORM & PACHYCAUL SUCCULENTS

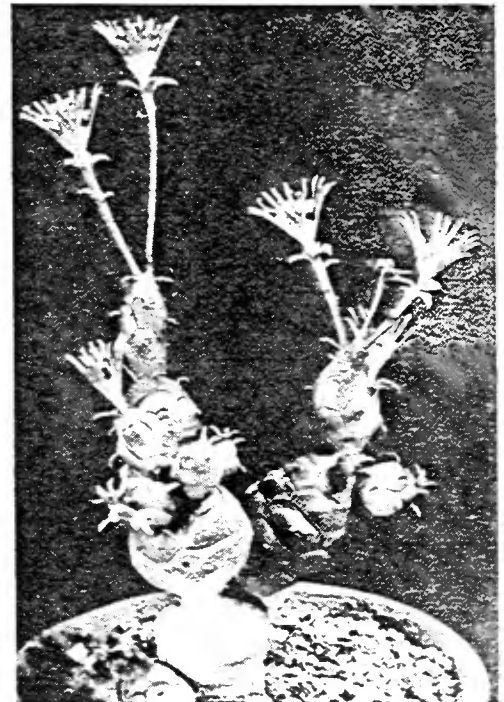
Gordon D. Rowley



E. crisper

In order to grow miniatures, select plants which naturally occur as small or *dwarf* species or choose plants which can be maintained or manipulated as such. In many cases, the mere act of containing a plant in a pot, especially a small one, will restrict its growth. This is a good point to discuss. What exactly is a miniature? It was brought to my attention that the judges during our recent show had a difference of opinion as to what makes a plant a miniature.

One view is that miniatures are only those plants that occur in nature as miniature plants. While it is true that naturally small plants are ideal to start with as a miniature, all plants that are taken out of their natural habitat tend to lose scale. So, scale has to be created in the staging of the plant. The other thought is that many naturally occurring large species can be miniaturized through manipulation. Here again, scale is being created in the growing and staging of the plants so that the miniature is a reflection



E. GLOBOSA.

of nature. To put an end to the confusion, I suggest that a “miniature” is **any plant** that can be “staged as” a miniature. A pot size no larger than 3 inches is normally the show schedule criteria for a miniature. Some pots have an irregular shape requiring an average measure. (*i.e. a rectangular pot that measures 4 inches by 2 inches would average 3 inches, and therefore qualify as a miniature.*) When showing plants always refer to the current show schedule, as definitions do vary. Some schedules call for “mature” specimens, which opens the judging to a whole other set of interpretations. Do not let this discourage you! For the beginner the rewards are great and the losses diminutive! And for those too shy to enter plants, or those too intimidated by all the other big beautiful entries, miniatures are a great place to start. And you could win a trophy, too! Don’t be surprised if you put more time into these than your larger plants!

There are probably thousands of succulent plants that can be miniaturized – you have only to try some. But when I was ‘volunteered’ to write this article it was decided to be specific to the genus *Euphorbia*. In keeping with that I have compiled a partial list of some euphorbias you might try as miniatures. As most readers already know the basics of planting: soil, pots, fertilizers, watering and tools, I will not go into details. Suffice it to say that everything is done on a small scale. For technical information on growing these little gems, please refer to Joyce Buckner’s excellent article in the September 1998 *Espinás y Flores*.

Researching this article, I paged through the ten volumes of the *EUPHORBIA JOURNAL* and found more species that would work well as miniatures than I am listing here. I suggest browsing through these journals for any one interested in finding rare or more unusual plants, although it may be difficult to obtain some of these as they are not all readily found in cultivation.

Many of the Madagascar euphorbias are quite suitable for miniaturization. Some broad-leafed species that grow from a caudex or thickened roots can be raised for a more interesting visual form are: *Euphorbia ambovombensis*, *E. capsaintmariensis* var. *capsaintmariensis* and var. *tulearensis* (the latter being naturally smaller), *E. cremersii*, *E. cylindrifolia* var. *cylindrifolia* and var. *tubifera* (the latter having a caudex), *E. decaryi*, *E. fianarantsoae*, *E. francoisii*, and *E. moratii*.

A favorite of mine, *Euphorbia hedyotoides* also has multiple tuberous roots (that can be raised above the soil) with delicate slender branches and narrow linear leaves.

References:

- Carter, Susan, *NEW SUCCULENT SPINY EUPHORBIAS FROM EAST AFRICA*, Bentham-Moxon Trustees, Royal Botanic Gardens, Kew, 1982.
- Chan, Peter, *BONSAI—THE ART OF GROWING AND KEEPING MINIATURE TREES*, Chartwell Books, Inc., Secaucus, New Jersey, 1987.
- Rowley, Gordon, *THE ILLUSTRATED ENCYCLOPEDIA OF SUCCULENTS*, Salamander Books Ltd., London, 1978.
- Sajeva, Maurizio and Mariangela Costanzo, *SUCCULENTS—THE ILLUSTRATED DICTIONARY*, Timber Press, Portland, Oregon, 1984.
- Schwartz, Herman, Ed., *THE EUPHORBIA JOURNALS, VOLS. 1 THROUGH 10*, Strawberry Press, Mill Valley, California, 1983-1996.

Other important species from Madagascar are in the *milii* group. Almost any of the smaller forms will work well; they are hardy and multi-branching which allows for cutting and shaping into wonderfully sculptural examples. *Euphorbia milii* var. *imperatae* is a nice one because of the small roundish leaves and brilliant red flowers.

Small euphorbias that have a caudex or napiform roots are good subjects to stage as miniatures. However, many of these are rarely offered commercially, and often they are sensitive or difficult to grow. The following are some that would be a bonus in any collection: *Euphorbia adenochila*, *E. brunellii*, *E. crispa*, *E. decidua*, *E. duseimata*, *E. guenzii*, *E. herrei*, *E. hydogaea*, *E. infossa*, *E. immersa*, *E. inornata*, *E. pseudoglobosa*, *E. pseudotuberosa*, *E. platycephala*, *E. primulifolia*, *E. quartziticola*, *E. rivae*, *E. rubella*, *E. silenifolia*, and *E. trichadenia*.

The small spiny *Euphorbia actinoclada* has been one of my miniatures growing in a one inch pot for several years now and remains healthy, compact and colorful. Two caput-medusa forms that remain small are *E. albertensis* and *E. hopetownensis*. I can also suggest the sub-globose forms: *E. obesa*, *E. meloformis*, *E. symmetrica*, *E. valida*, as well as *E. piscidermis* and *E. turbiniformis*. Although the last two are better grown on a graft.

Many of the plants listed above are still on my wish list but in time I hope to add more of them to my “mini” collection. I enjoy working with my plants and am often surprised when my “torturing” grants me an artful beauty – nature verses intellect.

All things are difficult before they are easy.

– THOMAS FULLER

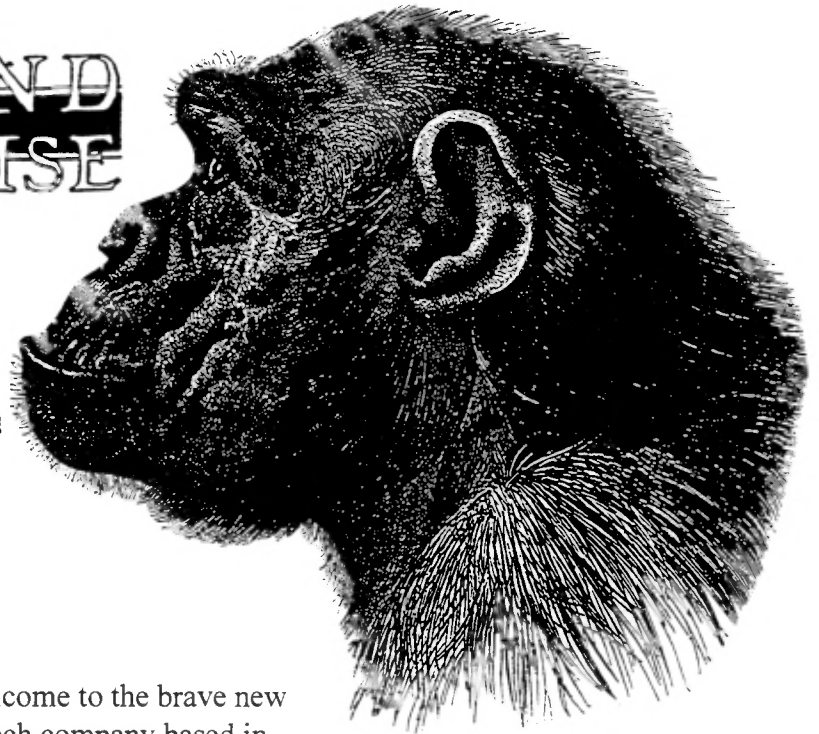
WISE AND OTHERWISE

By Michael Buckner

**Profusion is the charm
of hospitality.**

**Have plenty,
if it be only beer.**

– WILLIAM MAKEPEACE THACKERY



FLOWER POWER - Blue Genes: Welcome to the brave new greenhouse. Last week Florigene, a biotech company based in Australia, launched its line of violet carnations, Moonshadow, which do not exist in nature but were genetically engineered using a gene from petunias. The company plans to release a black carnation (made with an eggplant gene) next year and eventually hopes to create blue-hued roses. Maybe one day it will even make people into Smurfs.

TIME, June 21, 1999; Vol 153 # 24, NY.

During the ninth century B.C., a Mesopotamian king—Ashurnasirpal II of Assyria—boasted, “I collected herds and brought forth their increase. From lands I traveled and hills I traveled, the trees and seeds I noticed and collected.” And a sixth century B.C. hymn from southern Mesopotamia speaks of exotic floral wonders that “enhanced the pride of the city.”

In the sixth to fourth centuries B.C., the vast Persian Empire absorbed Egypt and Mesopotamia as provinces. Persian leaders continued to collect foreign fauna and flora but conceived a new, more formal garden plan. The Persian garden, rectangular and enclosed by high walls, was usually subdivided into four equal sections by canals that intersected at a small pool. These elaborate pleasure gardens were called *pairi-daēza* (“wall-surrounded”), a term the Greeks rendered as *paradeisos*. Over the next 1,000 years, “paradise” became a fundamental concept in Christian and Islamic thought. The ancient Egyptian and Mesopotamian garden evolved into the Eden of the Bible and the Koran, a reflection on earth of the splendors promised in heaven.

Karen Polinger Foster, *The Earliest Zoos and Gardens*; July 1999, Scientific America, vol. 281 #1, NY.

We should be deeply concerned about the loss of biodiversity—the different kinds of plants and animals that have evolved on this planet. Once they go, that’s it—forever. Paul Ehrlich said it’s like an airplane losing rivets. Once enough rivets are lost, down she goes, and we will go with her. Some people might ask, “What good is a giant garter snake?” Well, we don’t know—but why throw it away when we don’t know that much about it? Aldo Leopold said something like, “The first step in intelligent tinkering is to understand what you’ve got.” Only a fool would throw something away before he knows what he’s got. The question often reflects as well a deep-seated and overly human-centered view of the world that is now placing our species at risk.

Robert Stebbins: *Reptiles & Amphibians*; LIFE ON THE EDGE - A GUIDE TO CALIFORNIA’S ENDANGERED NATURAL RESOURCES: WILDLIFE, 1994, Biosystems Books, Santa Cruz, CA.

ARIZONA AGAVE - *Agave arizonica*: Every 10 to 30 years the Arizona agave stretches forth its flower stalk. The stalk, or inflorescence, grows rapidly, and within a few weeks it reaches 12 to 16 feet into the hot desert air. Starting from the base, one by one the small, tubular, pale yellow flowers open. Each flower lasts for three to five days before it fades. For a month while the flowering progresses, bees and other insects hover about the agave, diving into the nectar-laden flowers and emerging covered with pollen.

The probability that a bee will ever transfer that pollen to another Arizona agave is virtually nil. There are only 60 known clones in the wild, and though they are found only in a few mountain ranges of Arizona, they are widely separated. Pollination would also require the unlikely event of two nearby plants flowering at the same time. The prolonged period between flowerings of the few remaining Arizona agave has even made it difficult for scientists to conduct reproductive biology experiments, and some suspect that the plant may be an infertile hybrid.

The Arizona agave does reproduce asexually by underground roots, or rhizomes, which form offsets around the mother plant. Botanists refer to this cluster of identical plants as a "mother and pups," or a clone.

For most of its life, when the Arizona agave is not flowering, it is a small, rather unassuming plant, reaching, at maturity about a foot high and a foot in diameter. The green coloration of the thick, dark green leaves gives way to a mahogany red margin along their often toothed edges.

The insignificant appearance of the Arizona agave, together with its scarcity and the inaccessibility of its habitat, has largely kept it safe from collectors. But the agave does not escape the attention of browsing cattle and deer. They forage on the sugar-filled inflorescence as it emerges, before the stalk has a chance to flower and produce seed. Many of the clones are fenced off as scientists work to increase their numbers.

Susan Middleton & David Liittschwager, **Witness - Endangered Species of North America**, 1994, Chronicle Books, San Francisco, CA.

WISE AND OTHERWISE

COOKE'S KOKIO - *Kokia cookei*: The progress of the last known Cooke's kokio to grow in the wild was watched by the botanist J. F. Rock, who visited Molokai periodically through the second decade of this century. Before the plant died, Rock transplanted some of the seeds to gardens elsewhere. These plants never developed healthy rootstocks, and in the 1930's, with the species facing imminent extinction, a branch of the last *Kokia cookei* was grafted onto the related *K. drynarioides*, itself now listed as endangered.

Since then Cooke's kokio has survived without its own roots. A few further grafts, all clones of the first graft, have been implanted onto other kokoi, but as yet, none have produced seeds. To induce the plant to put down roots, botanists have also tried air-layering, wrapping moss around bends in the branch to simulate contact between the branch and the ground, but to no avail. The current technique being attempted is tissue culture: reproducing whole plants from pieces of bud. This has worked with some of Hawaii's other endangered flora, notable the lobeliads.

In the days when Cooke's kokio stood alone, this small tree grew 12 to 15 feet, and produced profuse orange-red flowers each summer. The primary pollinators were probably honeycreepers endemic to the Hawaiian Islands, now almost all extinct.

There were once four species of kokio, one on each of four Hawaiian large islands, but only three species are left. The kokio are believed to have established themselves soon after each island formed. Though each species became slightly distinct from the others, lacking much competition or many predators, none of them appears to have evolved very much over millions of years. Their chosen habitat is on the drier western lee side of each island's dominant volcano where, prior to the arrival of people, the chief threat to their habitat was the gradual erosion of land.

The kokio's rate of disappearance increases as human communities populated the flatter, comparatively dry areas, clearing them for agriculture. The rate rose dramatically with the arrival of cattle, which fed on the succulent leaves and disturbed the soil, making way for opportunistic alien trees and shrubs.

Susan Middleton & David Liittschwager, **Witness - Endangered Species of North America**, 1994, Chronicle Books, San Francisco, CA.

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