



Espinas y Flores

MAMMILLARIA THORNERI

NEWSLETTER of the SAN DIEGO CACTUS & SUCCULENT SOCIETY, INC.
A Non-Profit Public Benefit California Corporation
VOLUME XXXIII NUMBER EIGHT SATURDAY, AUGUST 8, 1998 @ 1:00PM



August Program: Chris Barnhill

LITHOPS & BULBINES

This month's program is sure to be quite a treat!! Many of you have already met Chris Barnhill, as he, along with his good friend Steven Hammer moved to Vista - San Diego County in the winter of 1997. Although he is a new member to our society, he is by no means new to the succulent world. As a matter of fact, he has been honored by having a plant, which he found, named for him — even if a bit cryptically. Steven Hammer (Cactus & Succulent Journal - U.S. 1997 volume #3, pp 127-130) described it as *Conophytum chrisocruxum*. "Chris Cross" is an exceptionally appropriate name, since this little plant resembles a tiny hot cross bun!

Chris's knowledge of South African plants has been accentuated by his travels to that region, as well as by his work with Steven Hammer at Mesa Garden in Belen, New Mexico and now as plant propagator at C&J Cactus Nursery. His photography technique is excellent. Some of the slides we will be viewing in this program have been selected to appear in the new book he and Steven Hammer have just finished on the genus *Lithops* (due out this fall). Don't miss this presentation — it will be a gem! as in *Lithops* — pun most definitely intended!!

Our cover: Banyan tree (*Ficus benghalensis*). This whole immense structure is a single integrated tree. Starting life as an inconspicuous plant high up in a host tree where its seed had been left by a bird, the seedling banyan sends down aerial roots which penetrate the ground, gradually grow thick and strong, and eventually smother the host tree. These "trunks" in turn produce lateral extensions which again drop roots. By repeating this maneuver, with the aid of increasing numbers of adventitious roots which support its far-flung branches, a single banyan may grow into what looks like an entire grove, with hundreds of "trunks" and a ground coverage of more than an acre. Its diagonal struts and braces form a girder-like-structure that rivals a bridge truss in soundness and solidity of construction.

Taken from **TREES** by Andreas Feininger; 1968, The Viking Press, NY.

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 for the September issue is Saturday, August 8, 1998

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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.

Rainbow Gardens Bookshop reports the arrival of two major new succulent books: **ADROMISCHUS** by John Pilbeam, Chris Rodgerson and Derek Tribble; 109 color photographs, 104 pages, hardbound - \$49.95; gives detailed information on the 28 recognized species; includes cultivation, chapters on classification, geography, propagation. A great book. **The Desert Breeze** (the Newsletter of the Tucson C&SS - editor, Carol Clapp) reprinted a review by "Bookworm Bill" from The Cactus File Handbook 3 - 1998: "This book, dedicated to the late Bryan Makin, is the first monograph devoted to the genus, *Adromischus*. It is sure to encourage more followers of these plants. . . attractive, informative and a pleasure to read, . . . sure to become as sought-after in the future as John Pilbeam's earlier books."

SUCCULENT AND XEROPHYTIC PLANTS OF MADAGASCAR - VOLUME TWO by Werner Rauh. A **STUPENDOUS** color compendium! 1,236 color and 97 black & white photos, 17 maps, 385 pages; surpasses the beauty of volume 1. Covers the succulents of a single vegetation zone — the southwest corner of the island — of what is termed the *Didiereaceae-Euphorbia* Bush. The photography is out of this world. Another fabulous publication from **Strawberry Press!**

Look for reviews on both of these new publications in the September issue of **Espinas y Flores**. Also in the September issue: "**The Seat of the Problem**" by **Ronald Burnight** - hard-core delightful; registration form for the **March 20, 1999 LotusLand Bus Trip**; several "**Letters to the Editors**" which we have not had space for in our regular editions; "**I Learned That**" by contributors from around the world, and poems, jokes and puzzles contributed by our many faithful readers. If you have any succulent related materials that you had been intending to share with the rest of us - **NOW IS THE TIME**. Our September and December newsletters can always use **your contributions!!**

SDC&SS President Thomas DeMerritt wants you to know that those of you who have been having difficulty finding parking in Balboa Park for our Saturday meetings should try parking at the Navy Hospital parking lot off the 1900 block of Park Blvd. Parking here is free, clean, safe and easy — and best of all: There is a free shuttle service to the base of the Prado's Foot Bridge (where the cactus & succulent garden begins) every ten minutes.

It is with great sadness that we note the passing of **Cynthia Giddy**, the author of **CYCADS OF SOUTH AFRICA**. Cynthia and her husband were involved in a terrible automobile accident (head-on collision) while on a botanical expedition researching her new book. Her husband, Ted, died at the sight; she died several weeks later in a hospital on June 15, 1998. Cynthia Giddy attended the CSSA Convention here in San Diego in 1977 with her friend Barbara Jeppe. She was a speaker at this convention. During that convention in 1977 many of us got to know Cynthia; we became lifelong friends and communicated by letter on subjects such as cycads, bulbs, and aloes, which she specialized in. She was always cheerful, and generous, a good public educator and speaker. She and her husband had just recently sold their indigenous plant nursery in Natal. She will be remembered fondly by those of us who had the pleasure and privilege of her friendship.

— *Michael Buckner* (with thanks to Chuck Everson).

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August 10 - Florida's Beautiful Cypress Gardens - a program by Joe Freeman, Chief Horticulturist of Cypress Gardens - SD Horticultural Society - 6:30 pm to 9:00 pm at the Satellite Wagering Facility, Del Mar Fair Grounds, Jimmy Durante Blvd., Del Mar, CA. For more information about this terrific society call (760) 630-7307.

August 11 - Pesticide Applicator Seminar presented by PAPA - A Pesticide Applicator Seminar at Southwestern College in Chula Vista - 7:30am to 3:30pm; cost is \$45; contact PAPA @ (408)442-3536 for more information.

August 22 - 23: CREATING HABITAT at the Inter-City Cactus & Succulent Show & Sale @ the L.A. Arboretum, Arcadia — 9am to 5pm. We think this is the biggest & the most fun show. Every year it seems to get better - if this is possible. Show is open to all who wish to participate — please contact Larry Grammer (562) 599-1146 or Woody Minnich (895) 944-2784 if you wish to participate. Or if you can help — volunteer to work during set-up or teardown, or help with sales, tabulations, clerking, holding area, etc — you will learn what it takes to create a truly notable show! Besides being well organized both with regards to the sale and the show, this event features several very original & interesting related activities. Among them are the Alternative Awards, such as "The Hercules Hernia" Award for the heaviest entry and the "Gods Must Be Crazy" Award for the most out-of-this-world UFO entry.

There is always a very nice and sociable Awards Banquet on Saturday night, along with a very special auction featuring some always impressive show specimen plants. This year's dinner will be held at a new location: the Peppermill, 795 E. Walnut Avenue, Pasadena, CA (626)449-1214; social hour (no host bar) begins at 5:30; dinner begins at 7:00 PM. The cost is \$22 per person; please remit checks payable to ICCSS. For dinner reservations please contact: Charles & JoAnn Spotts, 5941 Lone Pine Place, Paso Robles, CA 93446 — phone (805)237-2054.

Show theme this year is **Creating Habitat**, and as in the past, there will be Walks, Talks & Demos that educate people on how to create healthy and appealing habitats for cacti and succulents in pots and in gardens. Several SDC&SS members will be speakers, including: **Joe Wujcik, and Erika & Al Van Auker - Creating the Plant Pot - Hand Building & Throwing Containers for Habitat** on Sat, Aug 22 @ 12 Noon; **Woody Minnich & Charles Spotts - Where Cacti Grow - an Overview of Habitat** on Sat, Aug 22 @ 1:00pm; **Jerry Williams** (Rainbow Gardens) and Clem & Terry Goewert — **Swinging Epiphytes - Jungle Cacti and Succulents at Home in the West** on Sat. Aug.22 @ 2:00 pm; **Michael Buckner & Woody Minnich - Show Habitat - The Trophy Table - Why Those Plants Were Big Winners** on Sun. Aug 23 @ 1:00pm; and **Monte Woodworth & Joyce Buckner - Staging Cacti & Succulents as Miniatures - Aesthetics and Culture** on Sun, Aug 23 @ 2:00pm.

For more information regarding this terrific show & sale you may contact: **Michael & Joyce Buckner @ (619) 477-4779, Jim & Roberta Hanna @ (562)920-3046, Dick & Lupe Hulett @ (310)832-2262, Woody & Kathy Minnich @ (895)944-2784, Larry Grammer @ (562)599-1146 or Carol & Joe Wujcik @ (714) 963-3146 or <cawujcik@aol.com>.**

August 29 - Natural Pest Control Gardening - Speaker Andy Lopez "The Invisible Gardener" - from 12:00 noon to 4:00 pm in the Museum Classroom at the San Diego Museum of Natural History in Balboa Park. Co-sponsored with Quail Botanical Gardens. For several years Mr. Lopez hosted "Talks with the Invisible Gardener" on radio; regarded as an expert in his field, as well as a dynamic speaker, he is sure to provide an interesting, educational & entertaining afternoon workshop. Tickets - \$55; for further info: (619)232-3821, ext. 203; or www.sdnhm.org.

August 30 - September 13 - Permaculture Design Courses with the International Institute for Ecological Agriculture - Northern California. For info: IIEA, 864 West California Way, Woodside, CA 94062; phone (650)365-2993; fax (650)366-2241; e-mail ddblume@permaculture-institute.org or www.permaculture-institute.org.

September 12 - SDC&SS Annual Picnic at San Dieguito Park - Lower Section - 15900 block of El Camino Real for more information regarding our picnic - please call **Tom & Laura DeMerritt @ (619) 270-5544.**

September 12 - "Succulent Plant Uses" The 15th Succulent Plants Symposium @ The Huntington Botanical Gardens - registration and continental breakfast begins at 8:30am. For info contact Succulent Symposium - Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA 91108; phone (626)405-2160; fax (626)405-2260. Some of this year's speakers: Mark Dimmitt, Gary Nabhan, Wendy Hodgson, Ezikuel Escura, and Armando Rae. Symposium \$65; optional dinner at Folsom residence Saturday night \$25. Web Page: <http://huntington.org/>.

October 17 & 18 - San Gabriel Valley Winter Show & Sale at the Los Angeles Arboretum in Arcadia.

October 23 - 25: Sonoran 2 - A Cactus & Succulent Conference - Seminar - Symposium in Tucson - For more information regarding this terrific event contact: **Carol Clapp**, P.O.Box 91560, Tucson, AZ 85752-1560; phone (520) 908-9001 or e-mail://www.desertcactus.com/tcss/ or kitfox@azstarnet.com.

April 11 - April 16, 1999 - The CSSA Convention at The Tropicana in Los Vegas, Nevada - for more information please contact: Mindy Fusaro, CSSA Convention Registrar, P.O.Box 2615, Pahrump, NV 89041; fax (702) 751-1357.

CACTUS OF THE MONTH: *OPUNTIA*

ODD-BALL TYPES – STRANGE, WEIRD, FUNKY & DIFFERENT

BY MICHELLE HECKATHORN

What exactly is an oddball opuntia? Before that question can be answered you have to look at what a normal opuntia is supposed to look like. To my understanding, the "normal" opuntia is a prostrate or tree-like plant, the stems divided into determinate joints with the stem being either cylindrical or flattened with persistent or deciduous leaves. The spines are naked or sheathed with a papery cover and sometimes not there at all. Below the spines, in the areoles are the glochids, minute spines found only in members of the genus *Opuntia* and closely related species. Of course, we all know that nothing in life is perfect. There are always the rogues, the ones that do not quite fit in . . . the oddballs.

We have determined what the normal is, now we need to decide what the abnormal must be. Lots of searching brought me to these plants as being the oddballs, because they just plain look weird. One species I found is *Opuntia articulata*, also listed as *Tephrocactus articulatus*. Instead of having the normal round cylindrical spines with sheathes, it has spines which seem to be the flattened sheathes of the spines themselves. One of the cultivars is even more odd, called "Inermis" or *Tephrocactus strobiliformis* has a really weird appearance. Commonly called "Spruce Cones," it has no spines or glochids and looks like lumpy, bumpy, grayish green globs stacked one on top of another. It reminds me of a child's first clay creation.

Another species is *Opuntia clavaroides*, also known as Sea Coral, not because of the cylindrical stems of the wooly areoles. It gets its name from the ends of the joints which tend to look handlike or exhibit a fasciated type of growth. Another fact that makes this one odd is that this opuntia requires partial shade when most need full sun.

There are cristate varieties of existing species of opuntia, such as *Opuntia cylindrica*, *Opuntia fulgida*, and *Opuntia microdasys*. The cristate variety of *Opuntia microdasys* still has the yellow glochids, but the pads are convoluted and twisted like melting plastic. There is even a crested form of *Opuntia subulata*, making the brain coral patterns.

The other group that comes to mind are the monstrose forms of some opuntias. One is a monstrose form of *Opuntia subulata*. The Eve's Pin Cactus is normally a large branching shrub with cylindrical stems that have few or no spines, and semi-persistent leaves. The monstrose form of this is called the Christmas Tree Cactus, because it looks like a stylized Christmas tree. This one branches from the base up instead of branching at the joints; it sprouts the branches from every areole with the longest being closest to the bottom. The *Opuntia subulata monstrose* still has the semi-persistent leaves, but tends to have more spines and glochids than the normal type species.

Oddball Opuntias by Michelle Heckathorn continued . . .

The other monstrose species is one I have under the name *Opuntia variegata* "Maverick." I cannot find this name in the source books, so I do not know if it is correct or not. This opuntia is the standard flat pad type, but variegated in white and pink. This is not odd or weird in itself, as there are several variegated types of opuntia — the odd thing is that like the Christmas Tree Cactus it exhibits the pads sprouting from most of the areoles, which makes it look like someone has glued a bunch of small pads to a large one.

Did we answer the question asked in the beginning? Since everyone's definition of "oddball" is subjective, I do not know if I covered all the opuntias that some of you may consider oddball, but I covered the one's that I have found. If you have any others please bring them to the meeting to share with the rest of us. Deep down we all have a passion for the weird, the strange, the oddballs.

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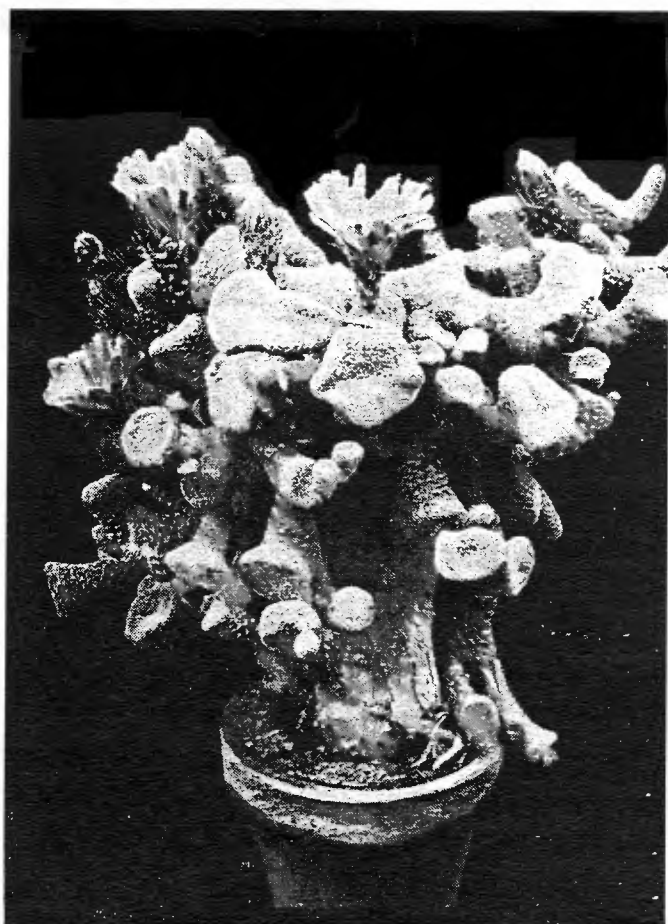



Fig. 1.—**OPUNTIA CLAVARIOIDES**
grafted plant in flower (Collection R. Graeser)
(through the courtesy of Deutschen Kakteengesellschaft—first reproduced
as cover to Kakteen u. and. Sukkulent, Nr. 4 (June 1950).)



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☿ The Monthly Benefit Drawing

There were twenty-three (23) happy enthusiastic winners from July's Benefit Table, and a welcome \$60 to our society's coffers. Many thanks to the following generous donors:

Betty Athy for *Notocactus herteri*, *Notocactus warasii*, and *Lobivia arachnacantha*; **Shirley Berry** for two *Opuntia violacea* "Santa Rita", an *Echinopsis* "Salmon Queen" (an old Harry Johnson hybrid), and *Mammillaria mieheana*; **Joe Flaherty** (Good-bye! We will all miss you, Joe!!) for an *Aloe distans*, *Neoregelia* "Green Apple", and *Neoregelia concentrica*; **Nibby Klinefelter** for a *Hectia elliptica*; and **Carol Jean Wolcott** for a beautifully potted *Manfreda maculosa* specimen.

And a big **THANK YOU** to **Betty Athy** for Benefit Table procurement. We know that poor Betty has been under the weather for several weeks now with a bad case of Bronchitis, and between that, running a booth at the Del Mar Fair, and preparing for a trip to Africa, she has really had her hands full. Hope you are feeling better, Betty — Bon Voyage!!

Thanks, *Kay Quijada*

BRAG TABLE WINNERS FOR JULY 1998: JUDGED BY THOMAS DEMERRITT

SUCCULENT:	FIRST PLACE:	Rudy Lime's <i>Pachycormus discolor</i>
	SECOND PLACE:	Joe Quijada's <i>Hoodia gordonii</i>
	THIRD PLACE:	Don Patterson's <i>Euphorbia ambovombensis</i>
CACTUS:	FIRST PLACE:	Shirley Berry's <i>Mammillaria bombycina</i>
	SECOND PLACE:	Don Patterson's <i>Copiapoa tenuissima</i> Crest
	THIRD PLACE:	Joe Quijada's <i>Mammillaria beneckeii</i>

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SUCCULENT OF THE MONTH: *PORTULARCARIA*

BY VIRGINIA INNIS

Portularcaria afra grows so well in its native land of South Africa that it is referred to as "Elephant Food" where elephants are prevalent. It is common in many areas but has been virtually grazed out in some places. The other common African name "Spekboom" literally translates "Lard Plant". The word "*spek*" means pork, and refers to the succulent (fat) nature of the stems and leaves. In the United States it is referred to as "Elephant Bush," but people often call it "Miniature Jade", even though the plant will readily grow twelve feet high and at least that wide or wider. A quick growing shrub it constantly produces small rounded fleshy uniform opposite leaves that are usually green. In some cultivated varieties the edge of the leaf will have a light brown or reddish to maroon margin which intensifies when grown in full sun. In severe hot sun some leaves will yellow a bit, but usually the leaf is a pleasing green. The bark of new growth will appear red, but eventually turns deep purple to dark maroon brown. Mature branches and bark are normally brown on the plain green variety.

There are also several variegated cultivars of *Portularcaria afra* with leaf colors ranging from a creamy white to a yellow & lime green spotted mixture. A commonly available variegated form is called *Portularcaria afra* var. *foliis-variegatis*. The leaves of this form are green in the middle and mottled with brilliant yellow. Leaves of the "Tricolor" form or variety will also have a bright pink to dark red or maroon edge. The common name for this variety is "Rainbow Bush." The variegated form is said to have been discovered by a plant tramp who took the plant to a famous hybridizer — and the rest is history. Some books state that the variegated cultivars came from Australia. Most of the *Portularcaria afra* with the solid green leaf tends to grow alike, however in the variegated forms there exists some variety in growth characteristics. Some tend to be more upright while other variegated forms grow prostrate, staying close to the ground. Early on, the Huntington

Botanical Gardens (San Marino) used it as a ground cover. Like sedum, it is not a plant to take foot traffic.

Grigsby Gardens in Vista has an attractive variegated low hedge used to retain a bank close to the entry. This hedge is about two and a half feet high — about as high as this form of *Portularcaria afra* variegata gets. I purchased a gallon size pot of this form at Grigsby's. Madelyn pinched back the end growth with instructions that if you want this variegated form to grow thick and husky, you need to pinch back the tip growth constantly.

A home in Ocean Beach (San Diego) on Del Mar Avenue has several attractive plantings of a variegated form in the front and side of the house. *Portularcaria afra* variegata is slower growing, smaller and more delicate than the green form. It is seen most frequently in pots and dish gardens. The green form is more prevalent in landscapes, especially in old established neighborhoods where, like the jade plant, cuttings root readily.

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Portularcaria afra, old specimen trimmed up "Bonsai style" on Westminster Terrace in San Diego. Photo by author.

On Hill Street in Pt. Loma (San Diego), a lady praised her green *Portularcaria* plant, however, she had planted in front of it another plant about the same size and height. Garden judges and landscape design critics refer to poorly situated plants as contributing to the lack of design. On Talbot Street in the same neighborhood a tall old *Portularcaria* grows along with a bougainvillea; all were trimmed into a modern hedge topiary that was angled on top. At this sight, a gentleman pointed to the huge trunk at the base of the plant. He said that he had lived on the this street for a very long time and knew that plant to be at least forty years old.

Not far away, on Armada Terrace, there is a singular plant that graces the front of a multi-level home along steps that lead up to the entryway. This plant stands tall and erect to the front, and in back a large branch turns down and graces the steps which lead to a lower level. The owner said that she had planted a cutting from her mother's home when she first moved to this house many, many years ago. A couple living in a wooded area of Pt. Loma have a series of *Portularcaria afra* that are planted in a narrow space along the side of their house. These plants soften the narrow space between the house and the sidewalk. They take full sun, and have been pruned to stay in their space.



In alleys all over Ocean Beach there are *Portularcaria* plantings that soften concrete block walls. In gardens, they mingled well with seasonal plantings as well as other perennials. On Cable Avenue, there is an unusually tall thin *Portularcaria* that was spotted by my neighbor as "a sight to see." It is pruned like a giant bamboo and grows in the center of the yard reaching a height at least as tall as the roof of the beach cottage that it grows in front of. Doug Moise lived there when several cottages which were too close to the OB Pier were bulldozed. Mr. Moise was allowed to save the plants. He planted some tall cuttings along an eight foot fence at the property line. It softens the lines of the fence. Mr. Moise now lives on Venice Avenue where he still share cutting from these plants that he salvaged. Nearby, still on Cable Avenue is a small well-designed cactus & succulent garden that includes a *Portularcaria*.

Old "Elephant Bush" specimens can be very decorative when properly displayed. Photos by Virginia Innis.



Succulent of the Month: *Portularcaria* by Virginia Innis continued . . .

Kensington (San Diego) is an old neighborhood, and has some interesting *Portularcaria* plantings, but not as many as the beach areas. On Marlborough Drive I have often admired two potted portularcarias which grace an entryway. The decorative pots are set on pedestals, heavy and square, in front of square columns. They have been growing out of these pots for at least fifteen years. Not far away, on Westminster Terrace, a *Portularcaria* catches your eye immediately. The owner said that she purchased this older home with plants several years ago. Most non-succulent shrubs have a lifespan of fifteen to twenty years. However, succulents, such as *Portularcaria* that grow to shrub size seem to defy old age and grow better with time. On Canterbury Drive, still in Kensington, *Portularcaria* is found in plantings of cactus & succulents between curb and sidewalk. No doubt, their outstanding drought resistant capabilities have helped them survive in neglected old gardens. They are quite sensitive to frost, and unfortunately the several hailstorms that we had this past spring have left their marks on all the *Portularcaria* plants that I mention in this article.

In reference books I consulted, the green and variegated plants were listed, but I did not find a listing for *Portularcaria afra* "*macrophylla*" although a plant labeled with this name did show up on the SDC&SS plant exchange table. The leaf of this variety appears to be larger. *Portularcaria* plants are not as common as the Jade Plant (*Crassula argentea*), but they can readily be found in most Southern California nurseries at a reasonable price. Also friends and neighbors are usually willing to share clippings, and there is often cuttings available at our exchange table.

[Editor's note: In List of Southern African Succulent Plants, by National Botanical Institute of South Africa and Succulent Society of South Africa, Umdaus Press, Pretoria, copyright 1997, we found three listings in the genus *Portularcaria*: *P. afra* Jacq., *P. armiana* Van Jaarsveld, and *P. pygmaea* Pillans. We know of one other species: *Portularcaria molokaiensis* which is native to Hawaii.

Although it is usually propagated through cuttings, *Portularcaria afra* does bloom on occasion. Tiny purplish to pink flowers occur in long panicle clusters during the summer months.]

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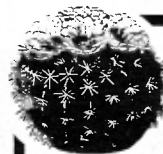
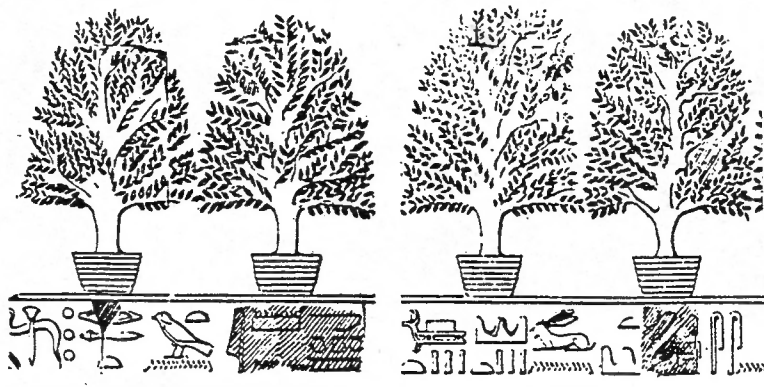
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SUNSET WESTERN GARDEN BOOK, Lane Publishing Co, Menlo Park, CA; 1990.



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CONDENSED MINUTES OF THE GENERAL MEETING OF SAN DIEGO CACTUS AND SUCCULENT SOCIETY
JULY 11, 1998

The meeting was called to order at 1:10 p.m. in Room 101, Casa del Prado, Balboa Park by Tom DeMerritt, President.

Tom led the Pledge of Allegiance to the flag.

Tom commented on our recent show and sale. He feels this event was successful and advised that we made a net profit of approximately \$4,100.00 from the plant sales.

ANNOUNCEMENTS: The following announcements were made by Tom DeMerritt --

The Annual Show & Sale of the San Diego Bromeliad Society will be held in Room 101, Casa Del Prado, on July 25 & 26. The show will be open from 1 p.m. to 4 p.m. on Saturday and from 10 a.m. to 4 p.m. on Sunday. The sales area will be open from 10 a.m. to 4 p.m. both days.

The 1998 Annual Turtle & Tortoise Show, sponsored by the San Diego Turtle and Tortoise Society, will also be held in Room 101, Casa Del Prado on August 29 & 30. The admission is free and the show will be open from 10 a.m. to 5 p.m. both days.

In order to alleviate parking problems at the Park, a new shuttle service is being initiated. The shuttle will run from the Navy Hospital to the end of Park Boulevard every 10 minutes. There will be a drop off at the foot of the Prado.

Elizabeth Glover introduced eight visitors that were attending the meeting today.

PLANTS OF THE MONTH/BRAG TABLE: Pam Badger covered the Succulent of the Month with a presentation entitled "Medicine, Myth and Magic - The Ethnobotany of South African Succulents". Pam's talk covered the many ways that the indigenous peoples of the area use many of the south African succulents for medicinal purposes. The Cactus of the Month included a slide presentation and talk by Mike Henshaw of San Diego Bat Conservation. Mike's talk covered current bat populations and pollination of night blooming cacti by bats in our area.

The Bragging Table was conducted by Tom DeMerritt.

Tom announced that Carl Dykema had brought in tomato plants to be distributed to any interested members. He also pointed out the outstanding plants on the Benefit Drawing Table and reminded those present to purchase their tickets.

Following the refreshment break, tickets were called for the Benefit Plant Drawing.

PROGRAM: Tom DeMerritt introduced Kelly Griffin, our featured speaker, who gave a slide presentation entitled "Aloes, A Broad View & Closer Look".

Kelly, who is also our Program Chairman, briefed the membership on some of the future programs that will be coming up, and asked that he be advised of anyone who might be interested in giving a program.

There being no further business, the meeting was adjourned at 4:10 p.m.

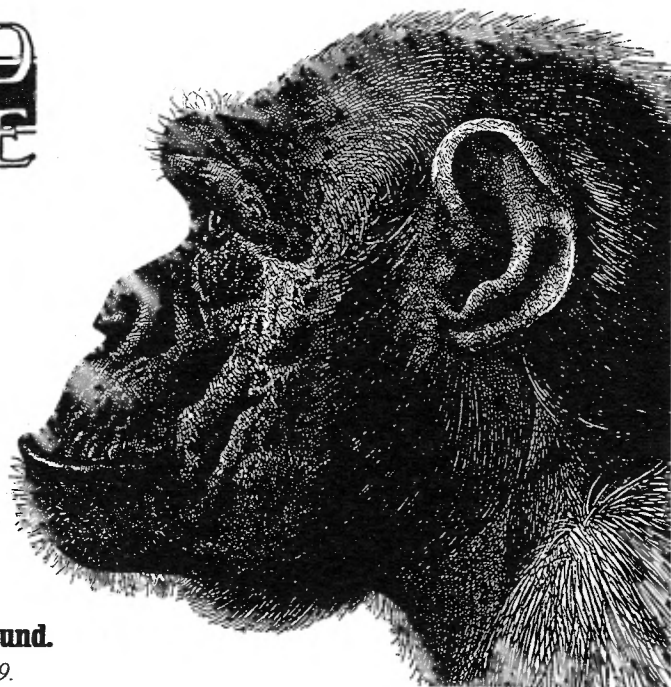
Beverly Kirkegaard, Recording Secretary

WISE AND OTHERWISE

by Michael Buckner

**'Twas a fair scene wherein they stood,
A green and sunny glade amid the wood,
And in the midst an aged Banian grew.
It was a goodly sight to see,
That venerable tree;
For o'er the lawn, irregularly spread,
Fifty straight columns propped its lofty head,
And many a long, depending shoot,
Seeking to strike its root,
Straight, like a plummet, grew towards the ground.**

— From "The Curse of Kehama" by Robert Southey, 1909.



Many if not most of the Mexican figs are of very peculiar growth. They are hemiparasites; that is, they often begin their growth upon other plants, usually palms, germinating and developing a stem from which aerial roots descend to the ground and take root. In this way the plants in their young stages are often vinelike. With age, the areial roots increase in size and form a trunk which gradually envelops completely the host plant. The stems at first are flat, broad, and thin, and as they increase in size several will unite, assuming irregular and fantastic forms. Ultimately the host plant dies but often it persists for a long time, and it is not unusual to see the fronds of a palm rising from the crown of a large fig tree. Figs of this habit of growth are known generally as "matapalo." Sometimes the plants begin their growth upon cliffs, developing their thin trunks against the rocks.

Large fig trees, too, often send down from their branches aerial roots which take hold of the soil and finally develop into trunks. In this way trees of the banyan type are formed, some of them of enormous size.

TREES AND SHRUBS OF MEXICO by Paul C. Standley; volume 23 - United States National Herbarium, 1920-1926, Smithsonian Institution, Washington D.C.

Fig trees bear tiny one-sexed flowers on the inside surface of hollow, fleshy receptacles with one tiny aperture to the outside world. The fig fruit we eat, "Involved, Inturned, The flowering all inward and womb-fibrilled; And but one orifice . . . a fruit like a ripe womb," to quote D. H. Lawrence on the subject, is in fact an inflorescence. There are three distinct types of flower, male, female, and neuter. The pollinator is a minute fig wasp only a millimeter long; almost every species of fig appears to have its own species of fig wasp.

The female fig wasp lays eggs, with a very long ovipositor, within the neuter flowers (really bogus females) inside "gall figs." While so doing she injects a drop of special liquid which causes the flower to turn into a gall, the enlarged fleshy tissue that results feeding the developing larvae.

These hatch when the fig is ripe and produce both male and female fig wasps. The males are wingless and die shortly, without leaving the fig, having inseminated the females in a small dark orgy within it. The females push out through the fig's orifice, where they brush past male flowers and become dusted with pollen.

Some of the females fly to gall figs and repeat the cycle. Others find true female figs; but the flowers here are a different shape, and frustrate the flies' efforts to lay eggs. In their bafflement the flies wander all over the flowers and transfer pollen to them, resulting in the ripening of seed-bearing figs. Whichever process occurs, the female fig wasps die within the figs, having not eaten anything since birth.

Before hybrid edible figs were bred, which set fruit without the need for pollination, it was the custom, as recorded by Theophrastus, to hang a branch of wild fig in the fruiting tree so that the gall wasps would cross-fertilize the two; otherwise the edible figs fell off before ripening. The wild edible fig is known as a caprifig, presumably because of a goatlike odor. In some parts of the world this "caprification" is still practiced.

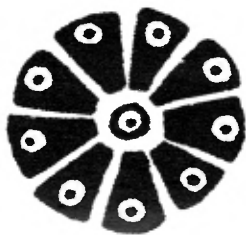
PLANT AND PLANET by Anthony Huxley; c 1974, Viking Press, NY.

A number of years ago when I was residing in Georgetown, British Guiana, Professor Harrison, who was in charge of the wonderful Botanic Station, called my attention to a wild fig-tree that was slowly committing suicide. For years, he told me, he had been watching the big tree fighting with itself. Slowly, relentlessly the struggle of the tree to live and the struggles of its tentaclelike aërial roots to destroy their parent had been progressing beneath the eyes of the naturalist who was deeply interested—I might say fascinated—by the weird battle between two portions of a single plant. When I first saw the tree many of its upper branches were healthy and covered with leaves, but the lower portion of the trunk and the maze of huge intertwined roots were dead and partly decayed. It was a truly remarkable experience to watch this strange struggle as it proceeded day to day. As if the living top of the tree were aware of its peril it would send aërial roots from its branches, and these descending would grasp the larger strangling roots and endeavor to choke these in turn. But it was a hopeless battle. The older larger roots always won. Little by little the signs of life decreased and at the end of two years the suicidal tree was a bare dead skeleton, a victim of its own deadly habits, its lifeless roots still clinging to the body of the victim it had destroyed in order to live.

WONDER PLANTS AND PLANT WONDERS by A. Hyatt Verrill; 1939, D. Appleton-Century Co, NY/London.

Training is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.

— Pudd'nhead Wilson's Calendar (Mark Twain)



WISE AND
OTHERWISE

Obligate mutualisms — in particular, one-to-one symbioses between a single pollinator species and a single plant species — make up only a small percentage of all plant/pollinator interactions: the risks of overdependence must be too high for many species to take. Nevertheless, even though obligatory partnerships are rare compared to interactions involving generalists, they often have a disproportionately large influence in structuring plant and animal communities. The best example of this is found in the world's wet tropical lowlands, where strangler fig trees play a key role in forest spacing and the support of fruit-feeders.

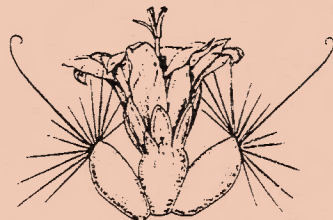
In countries ranging from Peru to New Guinea, figs are a critical resource for a wide variety of animals in tropical forest communities — from bats and primates (including people) to parrots and birds of paradise. Up to 70 percent of vertebrate diets in certain forests is derived from figs. There are more than 750 different fig species in the world, and the majority of them rely on different species of tiny wasps as their exclusive pollinator. And, in turn, these fig wasps depend on a portion of a fig's developing seeds as their food at a critical stage in their lives. As Judith Bronstein observes:

Figs have been called keystone mutualists of tropical forests — a keystone is the one that holds the arch together. The idea here is that if you pulled out the keystones, it would be disastrous for many of the animals that rely on them . . . This could happen, for instance, due to the selective logging of the trees upon which strangler figs establish themselves. Or, by spraying insecticides, you wipe out wasps, which in time will cause their fig tree hosts to decline or possibly go extinct since the trees won't be able to rely upon any other local pollinators. The must rely upon the very highly specialized fig wasps for their reproductive success. Both mutualists are locked in an intricate evolutionary dance and cannot change partners . . . It is assumed that populations would crash if figs or their obligate mutualist pollinators were wiped out. If this happened, cascading extinctions would be expected. One would assume that obligate parasites of the mutualism would go extinct, and monkeys would radically shift their diets or starve. With fewer animals feeding on fig fruits and seeds, perhaps there would be reduced food for predators such as raptors and jaguars. This isn't a trivial example but a very real threat due to tropical deforestation.

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Picnic: Tom & Laura DeMerritt

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. Fax available - please call editor at (619) 222-3216 for number.