

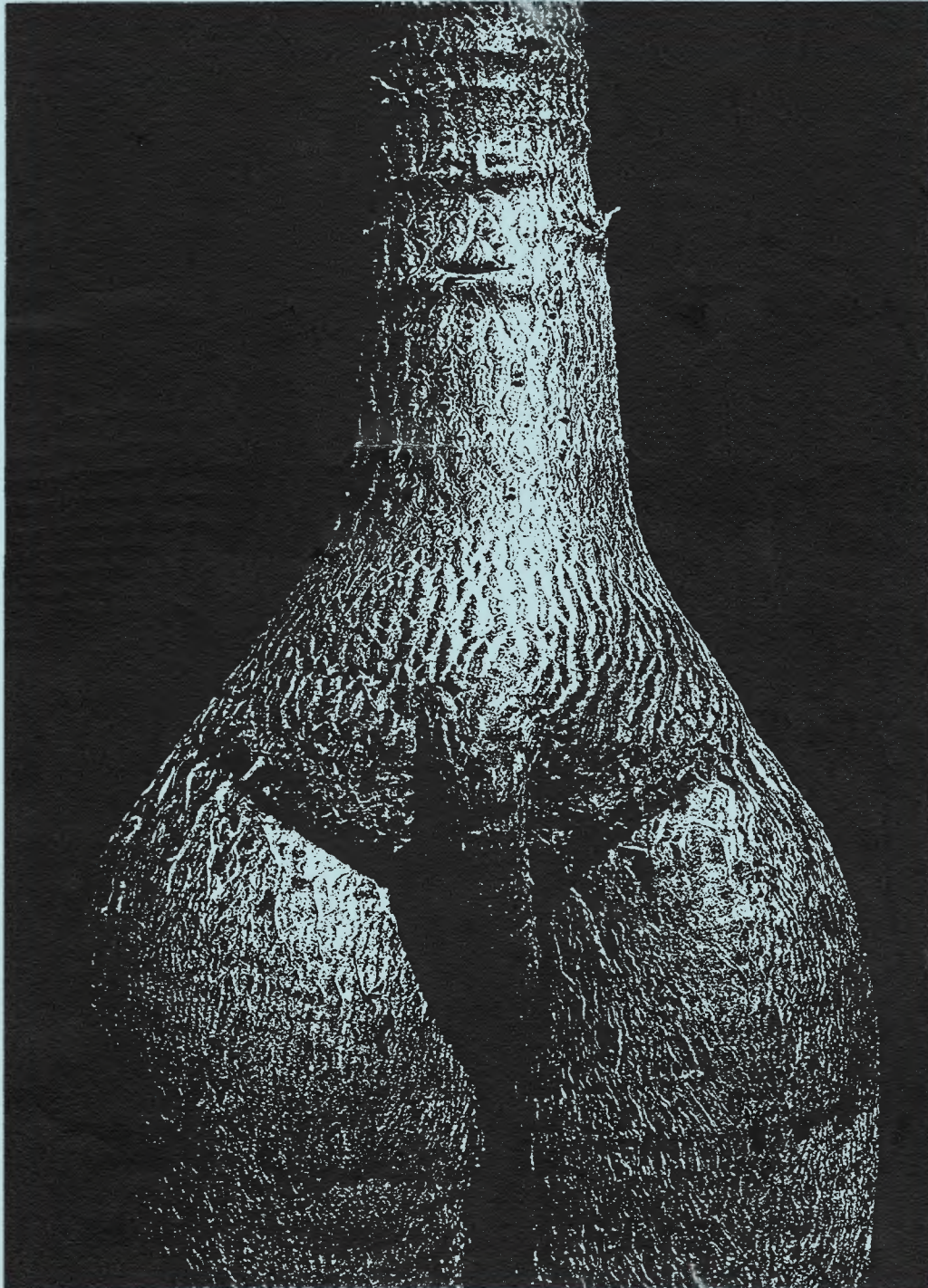
MAMMILLARIA THORNERI

Espinas y Flores

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

Affiliate of the Cactus and Succulent Society of America, Inc.

VOLUME XXXII NUMBER TWO, SATURDAY, FEBRUARY 8, 1997 @ 1:00 PM



Adenium obesum caudex

FEBRUARY 1997 PROGRAM: ADENIUMS

SPEAKER: MARK A. DIMMITT

Mark Dimmitt is well known for his work on Adeniums. Many of you have probably read some of his articles in the *Cactus & Succulent Journal* (U.S.). The 1991 article "*Adenium obesum* and *Adenium multiflorum*" (written by Dimmitt, M. and Hansen, C.) was Part 1 of his series: **THE GENUS ADENIUM IN CULTIVATION**. Part 6: **SELECTED HYBRIDS** appears in the Nov - Dec 1996 *CSSA Journal*. In this article, filled with color photos of some very exciting (*and tempting*) hybrids, Mark states, "The horticultural potential of the genus *Adenium* has only begun to be developed. The best cultivars to date are shrubby succulents with long blooming seasons. Their flowers are richly colored . . .". His enthusiasm for this genus comes through!

Mark Dimmitt is currently Associate Director of Science for the Arizona-Sonora Desert Museum in Tucson, Arizona; he has worked at this wonderful facility for 18 years. Mark impressed all in attendance at the 1995 *CSSA Convention* in Tucson with his magnificent cacti and succulent specimens, which adorned the entrance and hallways of the convention area. These specimens were not only spectacular, they were huge! And, I'm sure, no small feat to move. A hotel employee (*Perhaps, now, a cactus & succulent convert?*) remarked that they would be missing these wonderful plants. Other areas of interest for Mark include hybridizing *Tillandsias*, growing Orchids, and many other bizarre forms of plant life. Which is quite a task during Tucson's scorching summers. Mark has traveled extensively in northern Mexico, and has been to Ecuador and Peru.

About our cover: We deemed this marvelous photograph, taken by **Ron LaFon**, entirely appropriate, since our program is about Adeniums, and the succulent of the month article is on caudiciforms. Photograph was copied from **CAUDICIFORM & PACHYCAUL SUCCULENTS** by Gordon D. Rowley, published by Strawberry Press, Mill Valley, CA: 1987. Thank you, Dr. Herman Schwartz!

THANK YOU, MURPHY CANYON KINKO'S!
Great Job! Month after Month!

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

MICHAEL & JOYCE BUCKNER, EDITORS
4822 SANTA MONICA AVENUE, #103
SAN DIEGO, CA 92107
PHONE OR FAX (619) 222-3216

PUBLICATION DEADLINE IS THE 20th of the prior month.

Espinas y Flores is the newsletter for the San Diego Cactus & Succulent Society, a non-profit corporation. It is published monthly with the exception of a combined May-June issue (11 issues per year). 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 that 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.

PLEASE NOTE: LAST MONTH'S 1997 CALENDAR OF SDC&SS EVENTS CONTAINED AN INCORRECT DATE. ★ THIS YEAR'S JUNE SHOW & SALE WILL ACTUALLY BEGIN ON SATURDAY, MAY 31st! ★ We have enclosed a corrected 1997 Calendar in this issue. Please discard the calendar that was in your January issue.

HAPPY BIRTHDAY TO LIFE MEMBER FLOYD GABLE!

If all of our facts and figures are correct, Floyd will be 94 years old on February 19th. Gee, Floyd, you don't look a day over 75!

We understand that **Bob Taylor** attended the last meeting of the Palomar Cactus & Succulent Society. We are so glad to hear that he is getting out and about. Hope that he attends our February meeting, too. Bob is temporarily staying with his daughter in Granite Hills (*El Cajon*), however, he still gets mail at his home. We love you, Bob! Hope you are getting better everyday!!

We just learned of the passing of SDC&SS Life Member **Sophie Loyland**. Sophie and her husband Oliver were made Life Members many, many years ago (1960's). I met her once, at the memorial services for Doris Rake. She told us that she seldom attended meetings after the death of her husband, but she did read *Espinás y Flores* and paid us several compliments. Next month, our club Historian, **Michael Buckner**, will write a little something about **Sophie & Oliver Loyland** and their contributions to SDC&SS. If you have information or an incident to share, please contact Michael or Joyce Buckner @ (619) 222-3216.

We have an update to last month's article on **The Flying Samaritans**. Mailing address is Box #567, 1100 Irvine Road, Tustin, CA 92780 and the contact for the San Diego Chapter is Eleanor Markham at (619) 645-2000 ext# 151 or (619) 489-1131. Also, there is now a Rosarito Beach Chapter that sponsors Flying Samaritan Medical Clinic in Rosarito Beach, contact B. J. Carpenter at (619) 559-6898.

A NOTE FROM THE LIBRARIAN: A big "Thank You" to **Brunhilde Scheffler, Carol Jean Wolcott, and Michael & Joyce Buckner** for donating books to the SDC&SS Library! Thank you, as well, to **Michael Buckner** for putting protective plastic covers on many of our library's most popular books. You may look forward to several new editions — the first being available at the February meeting.

▲ And just a little reminder, the following need to return their overdue library books: **Thalia Criscenzo, Marylyn Henderson, Hamida Lamb, Lorna Odegaard, Mark Palandri, and Paul Steward**. Thanks, *Betty*

Bulk Mail Experience Looks Great on a Resume!!

HELP WANTED: We need someone to help with the *Espinás y Flores* newsletter mailing. Bulk mailing is a rather time consuming task, which initially appears to be boring and repetitive. Alas, this could not be farther from the truth. Almost monthly, new challenges will present themselves — everything from foul weather, ink that runs, a print shop innocently changing the paper weight in the middle of the job, to the endless and everchanging demands made by the Post Office. New forms, fees, hours, zip codes, mailing label locations, and other assorted rules & regulations are but minor hurdles.

Presently, **Joey Betzler** is performing this task alone; for many years **Elizabeth Glover** did a wonderful job for the club, often with the assistance of her brother, **Wilbur Glover** and **Joey Betzler**. (*We credit Elizabeth's uncanny ability to effectively deal with postal workers to a lifetime of military service! She is already sorely missed, but most definitely deserves her retirement.*) The club really needs a couple of Bulk-Mail volunteers. This would make the job go so much faster and more than one person should be totally familiar with the process to insure a timely mailing every month.

★ ★ PLEASE - IF YOU CAN HELP, EVEN PART OF THE TIME,
CONTACT JOEY BETZLER @ (619) 569-8510, OR SPEAK WITH HIM @ THE MEETING. ★ ★

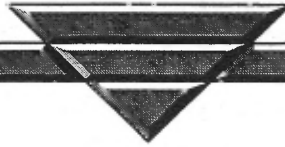
WANTS TO HELP: New SDC&SS Member **Jeffrey Harris** makes a rather interesting proposal: "Being quite the novice when it comes to cactus & succulents, I want to learn more about this most interesting new hobby. I am available on weekends to do gardening work for SDC&SS members who need help with their gardens and would welcome a willing hand and a thirsty mind. I would work in exchange for plants or another form of remuneration that is mutually agreeable. You may publish this offer with my home telephone number (619) 294-5708."

Quail Botanical Gardens Docent Training Class - Wednesdays, February 19 - May 7, 9:00am - 1:00pm. Call (619) 436-3036 for application or pick up at Gift Shop, 230 Quail Gardens Drive, Encinitas. Applications must be submitted by February 7.

Restoration/Revegetation of Desert Ecologies Course at the CSU Desert Studies Center, course begins Friday, March 7, 8:00pm and continues through Sunday, March 9, 3:00pm; located @ the Zzyzx Road exit of I-15, East Mohave; instructor: Raymond Franson, Ph.D.; \$142 for noncredit, includes two night's lodging & meals, \$212 for credit (two units); contact CSU Extended Education @ (909) 880-5945.

Insect Show @ Quail Botanical Gardens - March 15-16 at Quail Botanical Gardens (619) 436-3036.

April 12-13: South Coast Cactus and Succulent Show & Sale, to be held at the Southcoast Botanic Gardens, 26300 Crenshaw Blvd, Palos Verdes Peninsula. This is an open show; set-up Friday, April 11, 3:00-9:00pm; Sale 9:00am-4:30pm; Show noon-4:30 Saturday, 9:00am-4:30pm Sunday. Please contact SDC&SS Members **Dick & Lupe Hulett** @ (310) 832-2262 for additional information.



THE SAN DIEGO MUSEUM OF NATURAL HISTORY has scheduled several programs, lecture series, day trips, and overnight expeditions. The following should be of particular interest to many of us. Information and/or registration: (619)232-3821, ext.203; fax (619)232-0248.

★ **Wildflowers of the San Felipe Desert - Overnight Expedition** - Friday, March 14, 7:00am through Sunday, March 16, 7:00pm; leader: **Jon Rebman, Ph.D.**; \$85* - you must provide for your own transportation, food, and camping gear; camping is primitive (*no facilities*).

★ **Anza-Borrego State Park: Hale-Bopp Comet /Spring in the Desert Family Camp-Out** (*co-sponsored by Nursery Nature Walks*) Friday, March 14 - Sunday, March 16; leaders: Dave Wyman & Kathy Burke - botany by day / astronomy by night; \$95*/adult, \$75*/child<16 - several meals provided, parking fees not included; tent camping only; no RV's.

★ **Living Desert Bus Field Trip** on Saturday, March 22, 8:00am-5:30pm; lead by Barbara Baterson-Rossi; \$48* - admission fee included, bring sack lunch, water, etc.

★ **Earth Day / EarthFair in Balboa Park** - Sunday, April 20 - for info call (619) 496-6666.

★ **Wildflower Wagon Ride and day at Warner Hot Springs Ranch** on Sunday, April 20; instructor: Pat Flanagan; \$35* - bring your own lunch, water, etc.; wagon ride 10:00am - Noon; use of hot mineral pool, tennis courts, & hiking trails for the afternoon; children 6 years & up with adult.

★ **In Search of an Extinct Cactus in Baja California - Overnight Expedition** - Friday, May 2, 7:00am through Monday, May 5, 7:00pm; leader: **Jon Rebman, Ph.D.**; \$110* - limited "Jeep-pooling", food, water, camping gear not included; camping sites will be at the giant boulder fields near Catavina - this is a truly magnificent area, thick with Boojums, Cardons, and fantastic Pachycormis Trees! If you have never visited this area — do not miss this opportunity!

★ **Native Orchids of San Diego County** - class Thursday, May 15, 7:00-9:00pm - Field Trip on Saturday, May 17, 8:00am-4:00pm; instructor: Bud Close; \$29*; tour of several special areas within San Diego County.

* Fees quoted are for non-members; slightly lower fees for San Diego Natural History Museum members.

The SD Natural History Museum also sponsors many free events, such as, **Balboa Park Birdwatching Walks** and **Canyoneer Nature Walks**. To be placed on the SDNHM mailing list or for a schedule of free programs call the Education Department @ (619) 232-3821, ext #7.

SPRING IS COMING -- TIME FOR A FIELD TRIP! VISIT A NATURE PRESERVE:

- ☉ **Desert Tortoise Natural Area** - KERN COUNTY - *Open sunrise to sunset.*
 Walk self-guided nature trails to see wild tortoises and other reptiles. Info: Desert Tortoise Committee, P.O.Box 2910, San Bernardino, CA 92406; (909) 884-9700.
- ☉ **Sand Ridge Preserve** - KERN COUNTY - *Open sunrise to sunset.*
 See the rare Bakersfield cactus and other points of interest on a self-guided nature trail.
 Info: (619) 378-2531.
- ☉ **Santa Cruz Island Preserve** - SANTA BARBARA COUNTY - *Day Trips to the Island.*
 Cost \$49 per person. Reservations: (805)642-1393.
- ☉ **San Diego State University Ecological Reserve** - RIVERSIDE CNTY -
Saturdays, 9:00am & 11:00am.
 Conservancy staff-led tours of southern California's last free-flowing river. Moderately rugged one and a half mile hike overlooking the Santa Margarita River and Temecula Gorge. Space is limited.
 Info: (909)699-1856, extension #9.
- ☉ **Big Morongo Canyon Preserve** - SAN BERNARDINO CNTY -
Wednesday - Sunday, 7:30am - sunset.
 Birding at its best; walk through cottonwood and willow in the high desert.
 Info: (619) 363-7190.
- ☉ **Coachella Valley Preserve** - RIVERSIDE COUNTY - *Open sunrise to sunset.*
 See sand dunes, mesas, and twelve palm oases. Migrating birds. Visitor center open Monday through Saturday, 9:00am to 5:00pm. Info: (619) 343-1234.
- ☉ **Dos Palmas Oasis** - RIVERSIDE COUNTY - *Open sunrise to sunset.*
 A low-elevation desert habitat at the base of the Salton Sea. Info: (619)393-0066.

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MINUTES OF THE GENERAL MEETING
of the
SAN DIEGO CACTUS AND SUCCULENT SOCIETY
January 11, 1994

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

Tom welcomed those in attendance and asked Ethel Standish to introduce the guests. Ethel introduced Brenda Hamilton, our only guest at this month's meeting.

Tom reminded the membership that the Board meetings are open to anyone who is interested in attending, and advised that the next Board meeting would be held at the home of Ed Nolan. He also informed them that funds for the Library have been approved for new books and if anybody has any special requests regarding purchases, they should contact Betty Athy, Librarian.

ANNOUNCEMENTS

Stan Yalof announced that Kelly Griffin will be giving a talk on taxonomy at the Palomar Club two weeks from now and invited anyone interested to attend. He also mentioned that they have completed putting together George Lindsay's book on Ferocacti and that it will be offered to our Society as well as the Palomar Club at a discounted price. He also announced that the Natural History Museum will be providing tours in the near future. If anyone is interested in this, they should talk with the Curator, who is in attendance at our meeting today.

Joey Betzler announced the names of the members who had ordered nametags, and advised that they are available to be picked up at the Membership table in the back of the room.

Kelly Griffin announced that he has flyers pertaining to the up-coming CSSA Convention which lists the speakers, prices, etc. He also has CSSA membership applications for those interested.

Tom Knapik encouraged the membership to attend the Convention, which we will be hosting this summer. Tom also briefly covered some of the goals that he would like to see accomplished in the Society during 1997.

PLANTS OF THE MONTH

In the absence of Monte Woodworth, Michael Buckner did a brief slide presentation on *Pachycereus pringlei*, the cactus of the month, and Ed Nolan discussed *Othonnas*, the succulent of the month.

BRAG TABLE

The Bragging Table was conducted by Kelly Griffin and the following winners were chosen --

Succulents: 1st Place - Don Patterson for his *Pelargonium crassiecaule*; 2nd Place - Ed Nolan for his *Crassula mesembryanthemopsis*; 3rd Place - Shirley Berry for her *Euphorbia misera*

Cacti: 1st Place - Don Patterson for his *Copiapoa hazeltoniana*; 2nd Place - Shirley Berry for her *Cochemiea maritima*; 3rd Place - Don Patterson for his *Uebelmannia pectinifera*

Tom reminded the members to purchase their tickets for the Benefit Drawing, and advised that we would take a 30 minute refreshment break.

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

PROGRAM

Tom Knapik introduced our speaker, Gary Lyons who is in charge of surveying the gardens and analyzing horticultural acquisitions at the Huntington Botanical Gardens. His slide program covered inventory, taxonomic updates, plant status, historical notes and the permanent tagging at the Huntington.

Following the program Tom announced that "Giant Cacti" and "Caudiciform Succulents" would be our plants of the month at the February meeting.

The meeting was adjourned at 4:05 p.m.

Respectfully submitted,

Beverly Kirkegaard, Recording Secretary

A Message from Our President

We had a good turn out at the January meeting despite the gorgeous weather. Thank-you to Gary Lyons, Mike Buckner, and Ed Nolan for their interesting and informative presentations.

Gary's survey work at the Huntington is so very important when one realizes several species growing there may be all that's left in the world! Mike's use of slides during the Cactus of the Month, was refreshing. It's great to see plants at their peak, in bloom, and in habitat. Ed's interest in Othona and other winter growers lead him to suggest at the board meeting, a January plant show, perhaps to be held instead of the Jan. meeting. It would be a great way to see another group of plants at their peak. Let any board member know what you think. The next board meeting will be at Ed Nolan's house 6:30PM, Feb. 5.

At the next general meeting, Feb. 8 at 1PM, Mark Dimmitt, one of the foremost authorities on Adeniums, will be giving a program on his hybridizing work. There will also be a club plant sale with plants priced to sell. So bring your wallet or someone else who has one and support our club.

Unfortunately, I will not be able to attend the next meeting. I coach the Science Olympiad team at Patrick Henry and our regional competition is also Feb. 8 at San Diego State. I'll be turning the meeting over to my vice president Tom DeMerritt. My only request is that you please remain seated and quiet until the speaker has answered 2-3 questions and the acting president has adjourned the meeting. Thanks. Tom Knapik

**SAN DIEGO CACTUS AND SUCCULENT SOCIETY
1996 YEAR-END FINANCIAL REPORT**

Balance on hand as of December 31, 1995

\$ 4,421.07

INCOME

Membership Dues/Nametags	\$ 2,983.50
Plant/Pot/Supply Sales	8,955.88
Fund Raisers - Benefit Drawing	1,721.00
Library - Book Fines	37.05
Newsletter - Postage/Advertising	145.00
Latimer Research Fund - Donations	240.00
Annual Show & Sale:	
Plant/Book/Pot Sales	21,310.05
Plants Sold for Wild Animal Park	814.30
Picnic - Auction Plants Sold	1,494.00
Holiday Party - Dinners/Auction	1,580.50
Miscellaneous	897.33

Total Income

\$40,178.61

EXPENSE

Newsletter	3,910.84
Plant/Pot/Supply Sales - Vendors	6,160.17
Fund Raisers - Benefit Drawing	607.90
Library - Book Purchases	355.95
Latimer Research Fund - Distribution	2,150.00
Annual Show & Sale:	
Plants Purchased	6,105.10
Vendors Paid	7,395.87
Table Rental	430.00
Plant Labels	409.84
Judges - Fees/Luncheon	676.29
Ribbons/Trophy Engraving	571.45
State Sales Tax on Sales	1,678.00
Misc. (incls. deposit on tables, change for sales, etc.)	1,765.00
Supplies Purchased for Wild Animal Park	445.31
Picnic - Auction Plants/Refreshments	312.18
Holiday Party - Dinners/Plants/Ref.	2,531.58
Miscellaneous	1,598.64

Total Expense

37,104.12

Balance on hand as of December 31, 1996

\$ 7,495.56

Beverly Kirkegaard, Treasurer

4 The Monthly Benefit Drawing

January's Benefit Drawing produced sixteen smiling winners, and \$59 for our Society's treasury. Amongst the sixteen beautiful collectibles were five lovely plants that were donated by members! **Now, that's the spirit!** Many SDC&SS **BIG THANK YOUS** to:

Betty Athy for donating three plants — *Ceropegia dichotoma variegata*, *Gibbaeum shandii*, and *Mammillaria bocasana* "Fred"; **Michael Vassar** for contributing a fine *Pelargonium echinatum* FKH16881; and to **Carol Jean Wolcott** for gifting the club a lovely *Agave toumeyana ssp. bella*.

Please remember, our Plant Treasure Hunter — **Betty Athy** welcomes your donations of gorgeous to rare plant wonders, **and** your support of this program. If you wish to donate an item for the benefit drawing, please contact Betty @ (619) 469-7647.

There are many ways to participate. Purchasing one, or five, or ten, lucky benefit tickets, is one terrifically easy way for members to make a contribution. This totally painless process requires no heavy lifting, research, public speaking, sweeping, or baking! So, if you have never purchased an SDC&SS Benefit Drawing ticket — here's your chance to fulfill your club participation duties, and perhaps you will be rewarded by winning a lucky plant!

★ ★ ★ ★ ★ While you're up there, please remember to **THANK Kay Quijada** for all her hard work in running this Benefit Drawing every month. ★ ★ ★ ★ ★ Thanks, *Joyce*

BRAG TABLE WINNERS FOR JANUARY 1997: JUDGED BY KELLY GRIFFIN

CACTUS:	FIRST PLACE:	Don Patterson's <i>Copiopoa haseltoniana</i>
	SECOND PLACE:	Shirley Berry's <i>Cochemiea maritima</i>
	THIRD PLACE:	Don Patterson's <i>Uebelmannia pectinifera</i>
SUCCULENT:	FIRST PLACE:	Don Patterson's <i>Pelargonium crassacaule</i>
	SECOND PLACE:	Ed Nolan's <i>Crassula mesembrianthemoides</i>
	THIRD PLACE:	Shirley Berry's <i>Euphorbia misera</i>

The San Diego Cactus & Succulent Society, Inc. invites commercial advertising for publication in *Espinas y Flores*. In order to conform with Postal regulations regarding non-profit bulk mailing, all advertising must be related to the functions of this Society (*education about and the propagation of cacti & succulents*). This newsletter has a circulation of approximately 350. (290 copies are mailed to members and additionally, some 40 - 50 copies are mailed to educational institutions, botanical societies, cactus & succulent nurseries, and some CSSA board members.) Whenever possible, copies are made available to the general public should they attend a SDC&SS meeting, and extra copies of the May-June Show issue are always printed and provided to interested parties.

The San Diego Cactus & Succulent Society encourages the propagation and culture of succulent plants and their conservation. In order to promote these goals, the society will not allow the sale of field collected plants at our general meetings, nor at the June sale; all advertisers are expected to follow this policy. Education is one of the society's most important goals. The SDC&SS has a very extensive and outstanding library. A majority of our members regularly invest in botanical books to increase their knowledge and enjoyment of this hobby.

The deadline for all ads with camera-ready copy is the 10th of the month prior to issue. We invite your inquiry for advertising rates, which are based on size and number of insertions. Please contact: Herb Stern (619) 223-9124 or Joey Betzler (619) 569-8510.

Plant Enthusiast Missing Lost on Search for

GIANT CACTI

A CACTUS-OF-THE-MONTH TALE

BY ED DELOLLIS

Our story begins in the noisy, smoky newsroom of the San Diego Cactus Mag, close to the twentieth of the month. One of the editors, Nigel Bunker, is chomping on a cigar at his desk and asks, "Did you get an article for Cactus-of-the-Month?"

Joy Bruce, the other editor looks up from her desk and replies, "No, and this isn't the first time that Edmund DeLow has been late . . . I called his home earlier today, and his wife claims he hasn't been home for over a week."

Bunker banged his fist on the desk and yelled, "Red! Get in here, Red!"

Lamont "Red" Woodward, the magazine's number one scribe, ran in from his work in the copyroom, red hair poking from atop his visor. "Yes, boss", he says.

"DeLow hasn't turned in his article on Giant Cactus and I fear he is lost on some ill-planned expedition into the deserts to the south . . . Even though I gave him over fifty pages of research material!"

Red Woodward stroked his red goatee with his thumb and forefinger and divulged, "Edmund said he wanted to visit the Valley of the Cardons down in San Felipe. I'm due to pass by there soon in my role as Baja naturalist. I'll

try to find him."

"Capital idea, my dear Woodward!", said Bunker.

"Ditto", said Joy Bruce.

So in the ensuing days our tour guide Red Woodward made his way to the Sacred Valley of the Cardons situated to the east of the airstrip at San Felipe where over one thousand *Pachycereus pringlei* reside — mature plants that tower 35 feet above the expansive desert wash. The local people have carried a white marble lifesize statue of Christ to the top of the surrounding mountain ridge, where it can be seen with its outstretched arms by all who walk in the valley below. Lamont "Red" Woodward approaches a 60 foot *Pachycereus pringlei* the tallest of all, who goes by the name of Jack "Biggie" Cardon. Through a process akin to telepathy Red asks, "Have you seen Ed DeLow?"

"Yes, he was here", answers Biggie Cardon.

"Can you help me find him?" Red Woodward politely inquires. He is cautious about calling him "Biggie" to his face.

"I believe I can help", states Biggie Cardon. "I think I know where he was headed. We can enlist my two friends Ernie & Elvis to go out and find him if you think it is important."

"By all means", says Red.

Now suddenly the hot sun is blacked out by the twin silhouettes of a huge pair of eagles, Ernie & Elvis. Getting their instructions from the tall Cardon, the eagles soar up and away to the east crossing the Sea of Cortez to Sonora — Land of the *Carnegie gigantea*. The Saguaro (*Carnegie gigantea*) normally averages about 30 to 35 feet in height, but Ernie & Elvis flew to a population that contained some individuals over 60 feet tall. Although, the Saguaros were not as thick and did not have nearly the number of branches as the Cardons. Silent communication with the cactus told the eagles that DeLow had been there and was last seen headed northeast.

So Ernie & Elvis flew in that direction. They were about four months too early to see the state flower of Arizona — the Saguaro flower. And the eagles did not concern themselves with the fact that although each of these mature Saguaros can produce one million seeds in its lifetime, it is highly probable that only one of these seeds will germinate and then survive the age of forty, that is when a Saguaro is mature enough to produce its own seed.

Crossing the border into the U.S.A., the eagles spotted some clumps of *Lemaireocereus thurberi* that stood over 40 feet high. They perched on top of these Pipe Organ Cacti for a brief rest, and they soon found out the DeLow was last seen heading south. Being bird brains, the eagles did not know that the hardy *Lemaireocereus thurberi* are probably the only giant cactus that can take a frost.

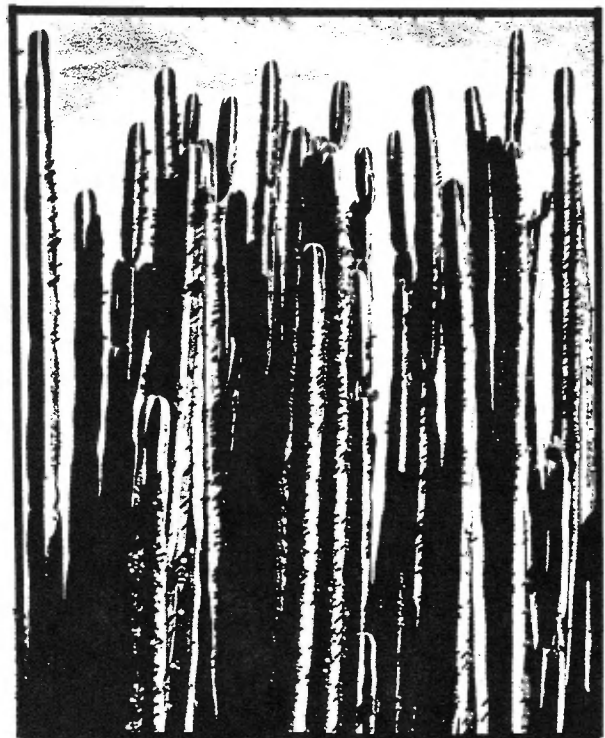
Ernie & Elvis continued their search; they flew southeast, crossing the border back into Mexico. They checked an area just outside of Monterey where the chalky blue columns of the *Pilosocereus palmeri* stand about 20 feet tall. Then they flew toward Central Mexico and discovered a population of

Pilosocereus polylophus whose light green branchless columns towered 45 feet above this mountainous region of Durango.

The eagles were then directed to the southern part of Baja where a stand of massive *Pachycereus pectin-aboriginum* was spotted. The deep green trunks of these 25 foot giants provided a stunning sight in that desert.

Intergeneric telepathy told them to fly back to the mainland — in Sonora they spied the tallest cactus. Some of these towering *Pachycereus grandis* had reached the impressive height of 80 feet. These enormous cacti sported trunks that were more than three feet wide. They needed that kind of girth to support the tonnage of a myriad of mighty arms.

Now by the time they arrived in Guanajuato, Elvis & Ernie were two tired and hungry eagles. Looking for rodent prey, they perched atop an amazing clump of *Celphalocereus senilis* whose long white hairy radial spines made them look like hirsute old men. The eagles were 50 feet up in the air atop this giant cactus. They soon spotted lunch and quickly swooped down eviscerating and eating the most succulent parts in a fast food frenzy.



STENOCEREUS MARGINATUS (DC.) Buxb.

Lost on Search for Giant Cacti *by Ed DeLollis continued . . .*

Meanwhile in another part of Mexico — Guadalajara, Red Woodward had finally tracked down Edmund DeLow. He found DeLow wandering about the marketplace in an inebriated stupor, which was more than likely the result of a substantial intake of the fermented juices of another giant succulent — the Blue Tequila Agave! Edmund DeLow stuck out like a sore thumb in his pith helmet and khaki uniform replete with many pockets. Red thought it odd that DeLow had a pocket protector with numerous black pens; then he noticed DeLow take a big bite out of one of these pens and realized they were licorice sticks! Red had some difficulty obtaining quarters for DeLow as many of the nicer hotels claimed to have no rooms available once they saw this bizarre looking Gringo who was spouting tall cactus trivia in a loud animated voice.

Red was quite relieved that DeLow almost immediately past-out on one of the shabby soft beds. He did not realize that DeLow had completed his research of the giant cactus, but he was praying that DeLow had written some kind of article before falling off his 12 steps. The polka music from the Pulqueria below vibrated the floors, but DeLow was sleeping like a hibernating bear. Red unzipped DeLow's only piece of luggage and right there on top was a chart listing more than 30 species of cactus that reach a height of at least twenty feet along with thirteen pages of messy hand-written notes.

Red contacted the editors and let them know that he would be faxing DeLow's chart and hand-written pages; Joy Bruce began grinding the coffee — it was gonna be a long night. When Red returned to the room DeLow was gone. He sent a message to our pair of eagles, alerting them to DeLow's idiosyncrasy and supplying them with a copy of his chart. Now Ernie & Elvis would have no trouble finding all the cactus listed on the chart. The tireless eagles continued

their relentless pursuit into Hidalgo confirming that DeLow had visited the 50 foot tall *Stenocereus dumortieri* and the 40 foot tall *Neobuxbaumia polylopha*, when they found traces of an uneaten licorice stick on the ground near these giant cacti. The eagles' big break came when Elvis spotted a turquoise and blue scrunchy caught in the spines of a massive 35 foot specimen of *Pachycereus weberi*; this grand cactus was nearly 30 feet wide. Swooping down for a closer look, Ernie found an Aeromex itinerary that listed a flight to Buenos Aires.

Without aid of any airline, Ernie & Elvis flew to South America, viewing four species of tall *Trichocereus*. One species, *Trichocereus poco*, was in brilliant red bloom. The eagles were becoming cactus connoisseurs. They became more acutely aware of the subtle differences and similarities with each new species they located, and the more they learned, the more they wanted know. They enjoyed *Stetsonia coryne*, which was the dominant feature of the high plains in northern Argentina. Some *Stetsonia coryne* were over 25 feet tall and had over a hundred thick blue green branches.

Then in northern Peru on the ground near a tall clump of *Neoraimondia gigantea*, the eagles noticed an arrow made from licorice sticks; it was pointing due west. Licorice letters spelled "600 miles". Ernie knew his geography and quickly concluded that DeLow's next destination must be the Galapagos Islands in the Pacific Ocean. Not stopping to rest, the eagles arrived on Barrington Island in the archipelago. And that is where they finally caught up with Edmund DeLow. He was standing among a population of the most unusual giant cactus he had ever seen — *Opuntia echios var. barringtonensis*. Prickly pear pads topped massive woody trunks which reached up to 40 feet.

GIANT CACTI CHART

GENUS / SPECIES	HEIGHT	LOCATION
<i>Carnegiea gigantea</i>	35'	Sonoran Desert - USA / Mexico
<i>Cephalocereus senilis</i>	50'	Hidalgo, Guanajuato - Mexico
<i>Cereus argentinensis</i>	40'	Argentina (Chaco)
<i>Cereus hexagonus</i>	45'	Surinam / N. Venezuela / Tobago
<i>Cereus peruvianus</i>	50'	Southern South America
<i>Lemaireocereus thurberi</i>	25'	Northern Mexico / Southwest USA
<i>Mitrocereus fulviceps</i>	60'	Puebla, Oaxaca - Mexico
<i>Mitrocereus ruficeps</i>	50'	Puebla, Tehuacan - Mexico
<i>Neobuxbaumia polylopha</i>	42'	Hidalgo - Mexico
<i>Neobuxbaumia tetrazo</i>	50'	Puebla, Oaxaca - Mexico
<i>Neoraimondia gigantea</i>	25'	Northern Peru
<i>Opuntia echios</i> var. <i>barringtonensis</i>	35'	Galapagos Islands
<i>Pachycereus grandis</i>	80'	Central & Western Mexico
<i>Pachycereus pectin-aboriginum</i>	25'	Baja, North-central Mexico
<i>Pachycereus pringlei</i>	35'	Baja, Sonoran shore - Mexico
<i>Pachycereus weberi</i>	35'	Puebla, Oaxaca - Mexico
<i>Pereskia lychnidiflora</i>	29'	Guatemala / Mexico
<i>Pereskia nemorosa</i>	25'	Paraguay / Argentina
<i>Pilosocereus palmeri</i>	20'	Eastern Mexico
<i>Pilosocereus polylophus</i>	45'	Central Mexico
<i>Pilosocereus royenii</i>	25'	West Indies
<i>Pseudopilosocereus ulei</i>	25'	Brazil (Cabofrio)
<i>Stenocereus dumortieri</i>	50'	Hidalgo, Oaxaca - Mexico
<i>Stenocereus marginatus</i>	25'	throughout Mexico
<i>Stetsonia coryne</i>	25'	Northern Argentina / Bolivia
<i>Subpilocereus repandus</i>	33'	Curacao
<i>Trichocereus pasacana</i>	20'	Argentina / Bolivia
<i>Trichocereus poco</i>	36'	Argentina / Bolivia
<i>Trichocereus santiaguensis</i>	23'	Argentina / Bolivia
<i>Trichocereus terscheckii</i>	40'	Northern Argentina

The magnificent *Opuntias* inspired DeLow to share his knowledge with the new succulent enthusiasts. Happy for the rest after such a long flight, and filled with a desire to learn more about these fantastic cacti, Ernie & Elvis perched themselves on a nearby rock outcropping. A giant Tortoise and several lizards unabashedly joined the audience. DeLow began by explaining why relatively few of the thousands of cactus species ever become giants. He based his lecture on information from Edward F. Anderson's recent article about the remarkably huge size, both in height and mass, of these particular *Opuntias* that presently surrounded them.

The ancestors to Galapagos species were probably the arborescent *Opuntia pittieri* from Columbia, but this species never reached a height of even twenty feet. He pointed out that gigantism is a noted characteristic of island organisms. A good example of this are *Dracaena draco* and *Phoenix canariensis*, two huge species that are native of the Canary Islands.

Another factor that these giant cactus species of Mexico, South America, and the Galapagos have in common is climate, which needs to be uniformly warm, not too hot, and no frost. Habitat for these giants normally has an annual precipitation that is slightly above the average for other desert areas. These areas, although arid, also have a season with steady rainfall or heavy fogs. In these moister areas with a more temperate climate the natural selection would favor taller trees, as the taller plants will overtop other plant competitors. Another advantage of cacti, of course, is that they can be supported in arid ecologies and are more capable of surviving several years of drought.

The development of a thick-skinned trunk-like woody base with treelike branching higher up is also a characteristic shared by most of these giants. In the case of the *Opuntias* of Galapagos, the arborescence is a response to giant tortoise foraging. Similarly, the woody trunk of a Cardon proves to be inedible by desert animals and therefore provides protection

for a mature plant during its reproductive phase.

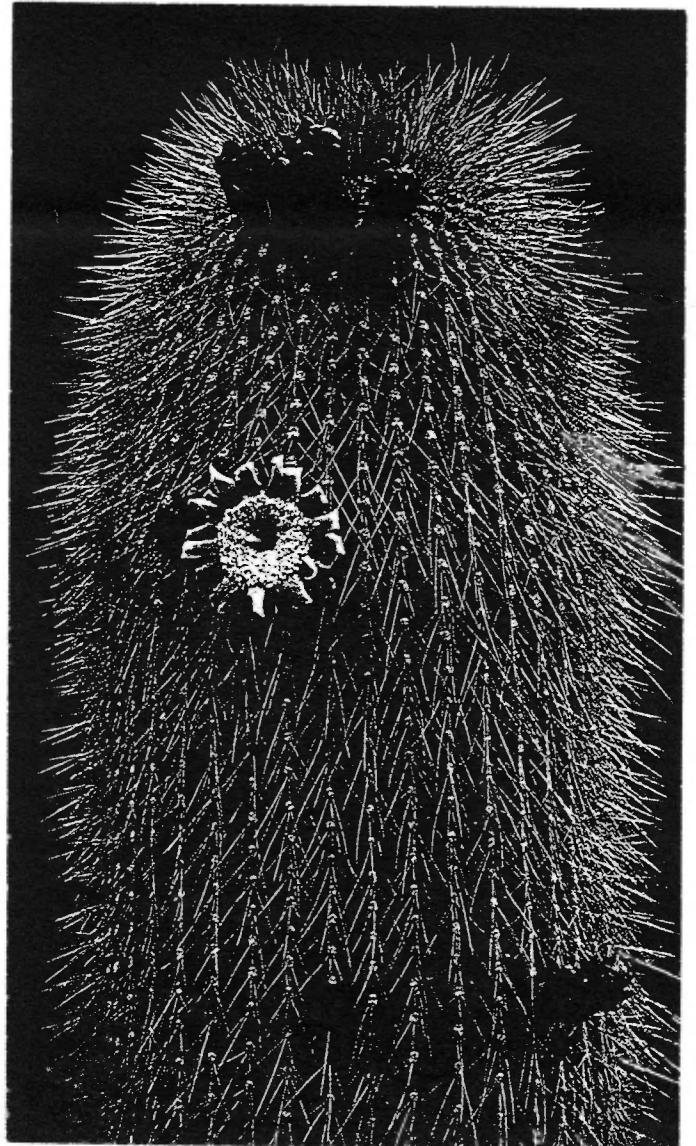
Animals notwithstanding, when you consider the many types of plants that exist in these slightly moister areas of deserts, competition among the plants is the biggest selective force in creating these titans. In conclusion, it can be said that populations of giant cactus live in desert areas that are either islands, peninsulas, or have the equivalent of these island conditions, a moister, more temperate climate. Happy with this explanation, DeLow opened a new package of licorice and offered it around, making all of his creature students happy. **THE END**

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Pilosocereus polylophus

CAUDICIFORM SUCCULENTS

BY MICHELLE HECKATHORN

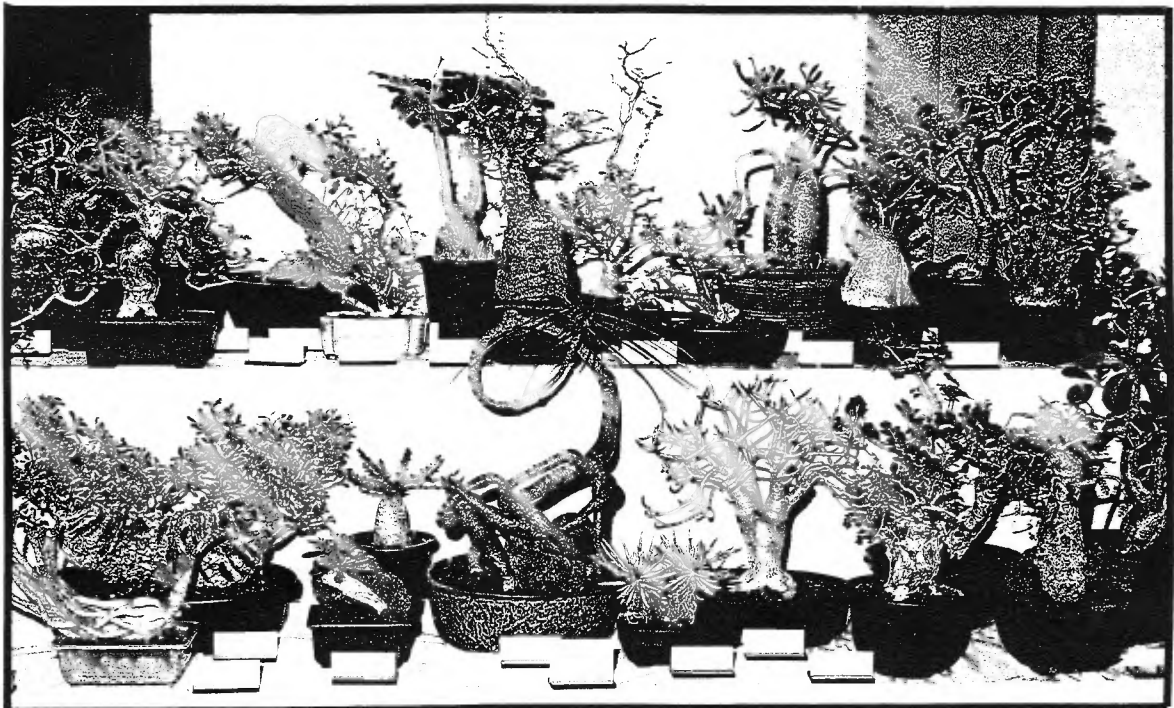
When I first started growing succulents, I thought all succulents were strange and from another planet. Wanting to know more about my new hobby, I immersed myself in reading matter. This led to my discovery of even more bizarre plants, the caudiciforms. The interesting textures, unusual shapes and growth habits absolutely fascinated me. I found that these uncommon traits came about as an adaptation to stressful situations, equally fascinating.

On the botanical side of things, we ask ourselves, what exactly is a caudiciform succulent? According to Gordon Rowley, caudiciforms are plants that survive droughts by means of a perennial, watery, swollen storage organ from which comes (*mostly*) annual or (*sometimes*) perennial, slender, photosynthesizing shoots that usually climb or twine up for support. Over 37 of the existing plant families contain genera of plants that have what is called by Rowley the "caudiciform syndrome".

The caudiciform syndrome is a list of characteristic that describe the features which qualify or define a plant as a caudiciform:

- 1) Photosynthesizing and storage organs sharply distinct.
- 2) Caudex not ribbed.
- 3) Caudex not regularly jointed.
- 4) Caudex not green and photosynthetic.
- 5) Branches thin and more or less non-succulent.
- 6) Branches weak, climbing, twining, or prostrate.
- 7) Branches deciduous.
- 8) Leaves thin and mesophytic.
- 9) Leaves lobed or compound.
- 10) Leaves deciduous.
- 11) Flowers unisexual, often small.
- 12) Plants dioecious.

(This list and all illustrations used in this article are from: CAUDICIFORM AND PACHYCAUL SUCCULENTS by Gordon D. Rowley, Strawberry Press, Mill Valley, CA, c:1987.)



These bonsai succulents were part of an exhibit by Rudy Lime at the San Diego Cactus & Succulent Society's Show. Rudy refers to them as "SMOLA", Succulent Medium of Living Art.

Caudiciform Succulents by Michelle Heckathorn *continued* . . .

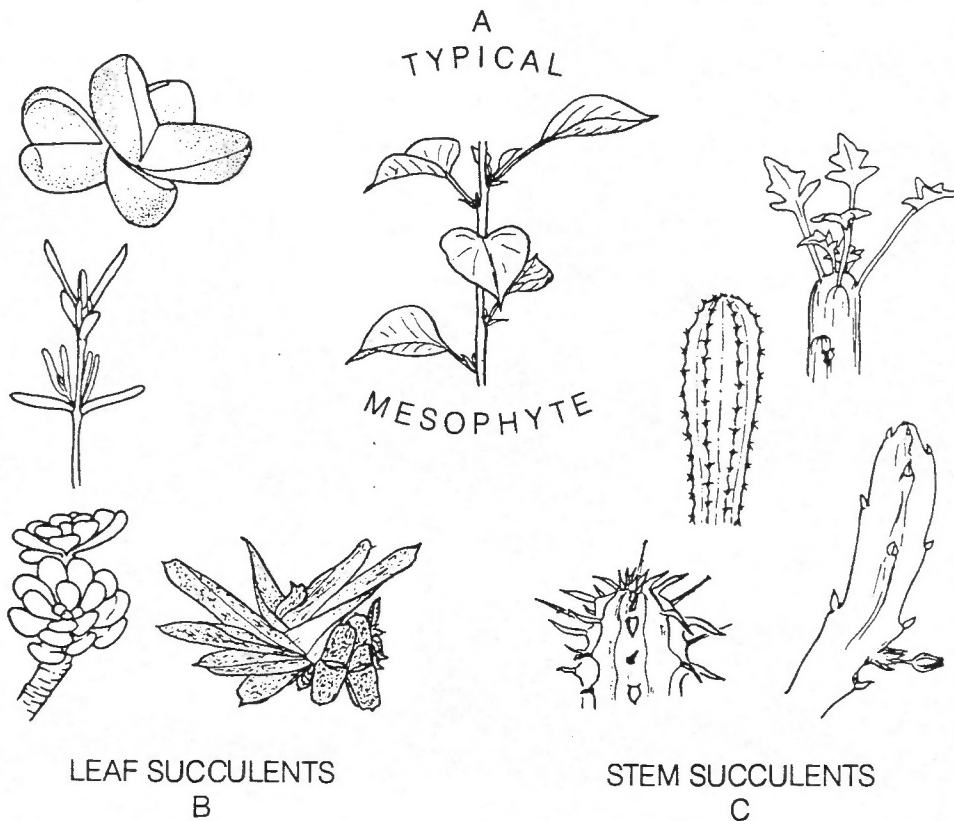
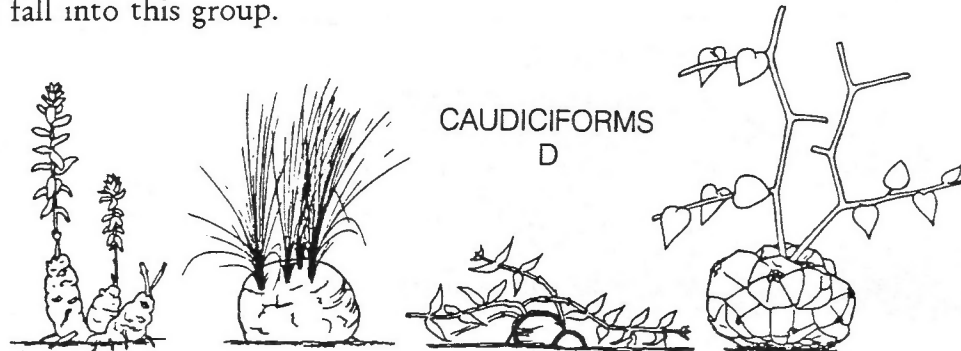
Caudiciforms can then be further classified into four groups that are defined by where the growth points are located on the plant.

The first of these groups are the **phanerophytes**, the "visible plants", which have the growth points all located far above the ground. This group includes all the pachycauls, such as, *Jatropha*, *Beaucarnea*, and *Pachypodium*.

The second group are called **chamaephytes**: the "on the ground plants". Chamaephytes have growth points close to the ground, but with the caudex sitting right above ground. This group includes the caudex types like *Dioscorea elephantipes*, *Fockea crispa*, and *Calibanus hookeri*.

The third group, the **hemicytrophites**, are the "half hidden plants". The growth points for plants in this group appear right at the surface of the ground with the top of the caudex just above the surface. Plants in this group include the taprooted types, such as, *Euphorbia primulifolia*, and the tubers, such as, *Ceropegia woodii*.

The final group is called the **geophytes**: the "earth plants". The caudex and the growth point occur below the surface of the soil in geophytes. Corms, such as, *Brachystelma foetida*, rhizomes, such as, *Sansevieria*, and bulbs, such as, *Bowiea volubilis* and *Scilla* fall into this group.



1.5 Some life forms in succulents, as compared to that of a typical thin-leaved mesophyte (centre).

Top row: *Sedum*, *Calibanus*, *Ceropegia*, *Dioscorea*.

Leaf succulents: *Pleispilos* (top), *Lampranthus*, *Pachyphytum*, *Gasteria*.

Stem succulents: *Senecio* (top), *Cereus*, *Stapelia*, *Euphorbia* (bottom left).

There are many aesthetic values of caudiciform succulents that are worth mentioning. I will just notate a few of these "oddball" species which belong to a wide variety of plant families. The Campanulaceae contains a member that is considered a pachycaul; *Brighamia citrina* is a rare plant, endemic to Hawaii, with beautiful yellow flowers.

The Portulacaceae also includes several pachycauls. *Portulaca sclerocarpa* with its largely thickened base stems is also a native to Hawaii. *Talinum paniculatum* with its panicles of bright pink flowers and tuberous roots is indigenous to the southern United States and Central America. The *Ceraria pygmaea*, which easily forms an impressive tree-like bonsai shape with delicate succulent foliage, is a favorite among miniature enthusiasts. This *Ceraria* is from South Africa.

The Araceae (*Philodendrum* family) has a member by the name of *Zamioculcas zamiifolia* — a rhizomatous perennial with succulent foliage that is native to Tanzania.

The Oxalidaceae is a plant family whose members are mostly considered weeds. However, there are several members in this family that qualify as caudiciforms. One example, *Oxalis carnosus* has knobby tuberous roots that are perfect for caudiciform status. Add to that the Oxalidaceae tendency for producing an abundance of colorful blooms, and you have a weed with potential!

Another family, the Piperaceae, has a member, *Pepperomia pachypodioides*, that has an interesting lumpy formation.

There is one unusual genus that I must mention: *Myrmecodia*, of the Rubiaceae. These are epiphytic succulent caudiciforms from Malaysia and Australia with prickly chambered caudexs. This caudex becomes a home for a colony of ants, and the ants in turn protect the plant from animals that would normally eat the plant. The *Myrmecodia* is rarely seen in collections, because any damage to the caudex is fatal to the plant.

There are also caudiciforms that have more than aesthetic involved. There are caudiciforms that have commercial and agricultural value. Many are used as food sources by local peoples and have value as crops for us. The Dioscoreaceae (*Yam* family) contains the true yam and, additionally, has many edible members. Two examples are: *Dioscorea bulbifera*, the "Air Potato", cultivated in the Orient and a commonly seen in succulent collections; and *Dioscorea elephantipes*, the "Elephant's Foot", is consumed by the Hottentots of South Africa in times of famine.

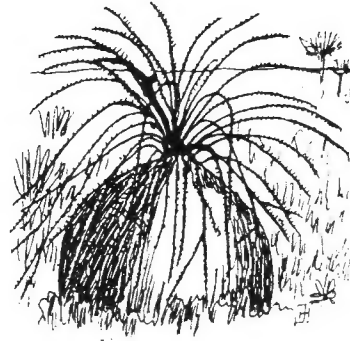
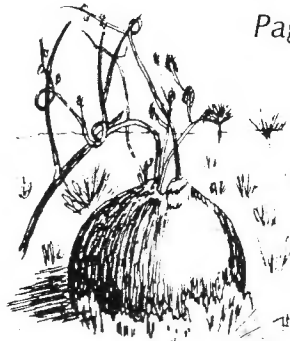
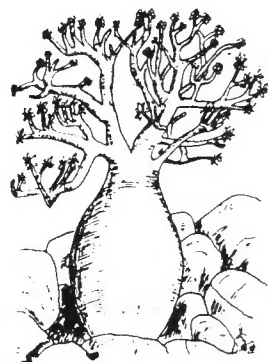
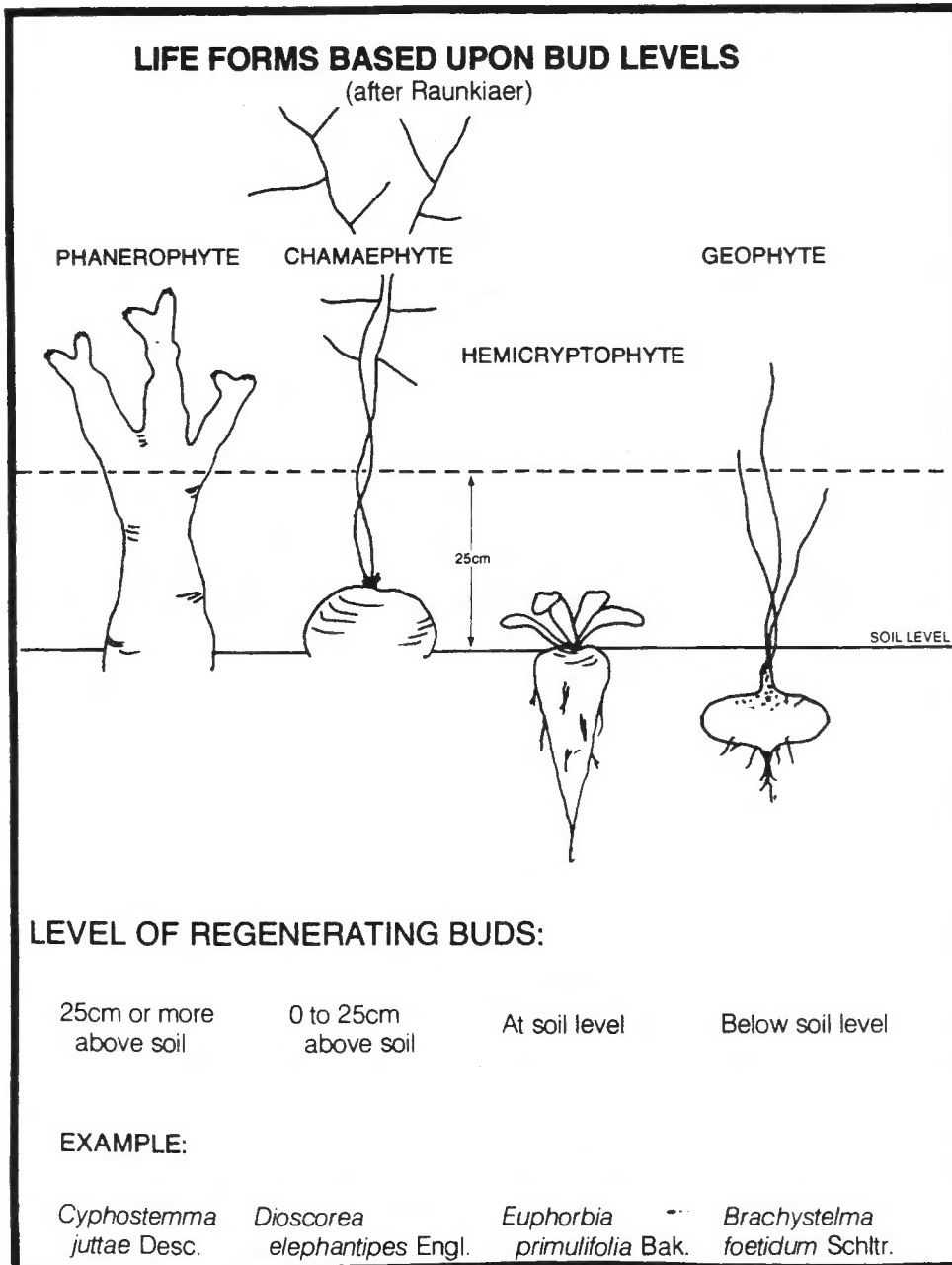
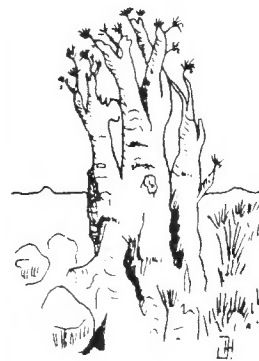
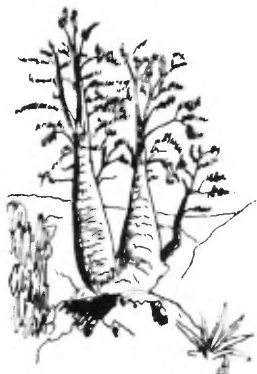
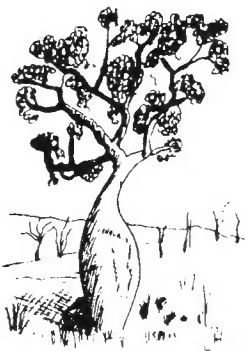
The Asclepiadaceae also has at least three edible members: *Fockea edulis*, which is used as a water source by the Hottentots; *Brachystelma foetida* is used as a food source, in spite of its bitter taste; and *Raphionacme hirsuta*, which is utilized by the locals for making beer.

The Convolvulaceae, which includes the sweet potato, also has *Ipomoea leptophylla*. This *Ipomoea* is native to the United States and eaten by Native Americans in times of famine.

Another family, the Fabaceae has three edible members that could be considered caudiciforms: *Tylosema esculenta*, from the Kalahari in Africa, is cultivated for its edible bean-like seeds; *Pachyrhizus erosus*, commonly known as Jicama, is an edible tuber from Mexico — seeds, however, are poisonous; and *Dolichos seineri* from southwest Africa is a water loaded caudex with rare blue flowers.

Caudiciform members of the Burseraceae, *Commiphora* species and *Boswellia* species provide us with myrrh and frankincense. *Bursera* species provide fragrant resins: copal, elemi, and tacamahaca.

The Bombaceae has one interesting member, *Adansonia digitata*. This is the Baobab utilized by the natives when they bury their dead. The natives also eat the young leaves, make a drink from the fruit, and make fiber from the bark of this plant.



I have mentioned only a few of the many caudiciforms that exist out there. More are being discovered and recognized as we explore the world. The possibilities of new plants, new food sources, and material uses for these caudiciforms seem endless, as we look for better and more organic methods of improving our world.

For the hobbyist, remember, caudiciforms are out there where you least expect them. Many of these exciting plants can be easily grown from seed. Be patient, these beauties are well worth the wait.

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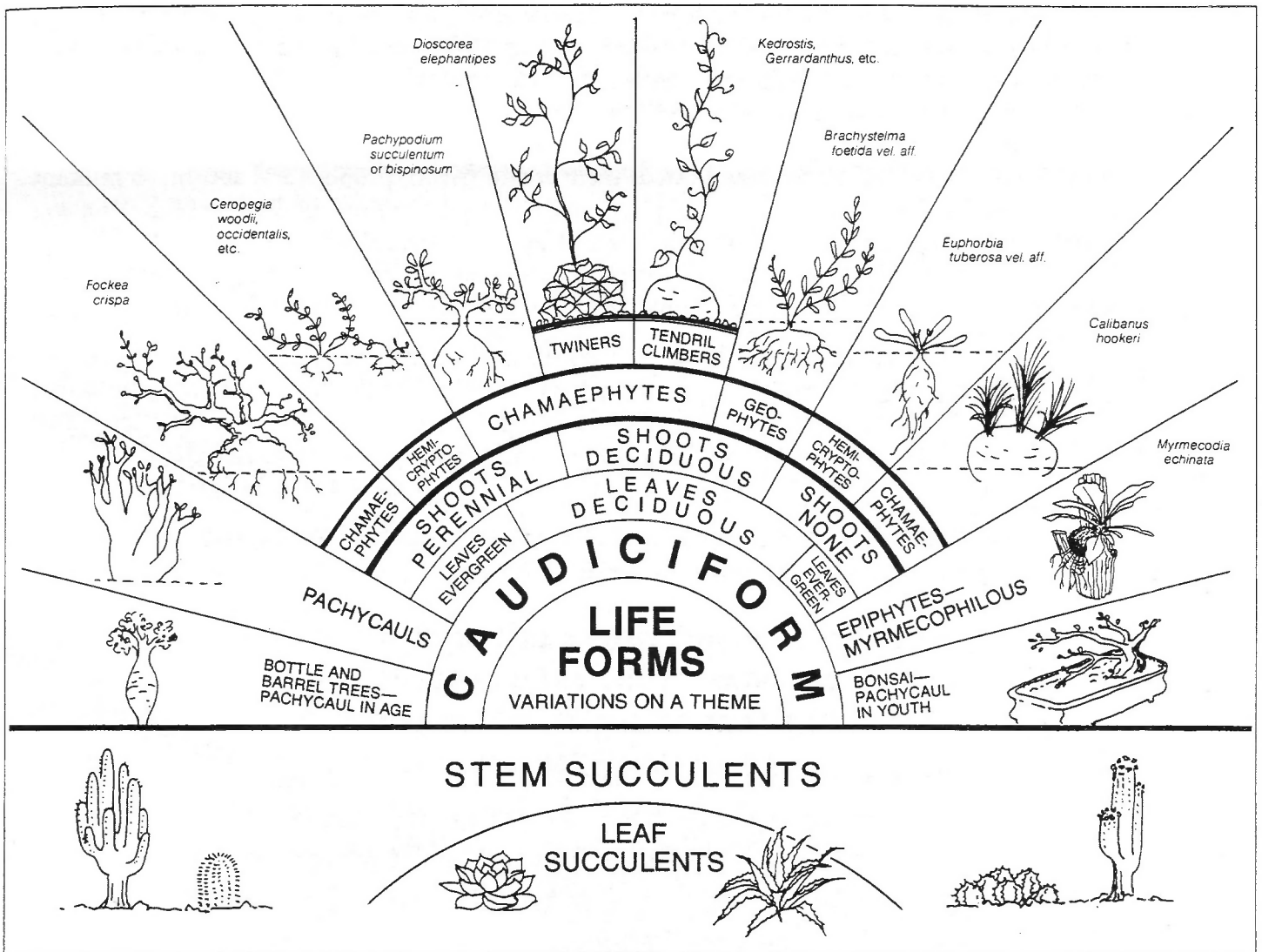
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If you own an interesting caudiciform succulent, please share it with everyone by bringing it to the February meeting.

Thank you! Michelle



Not an evolutionary diagram, but a sampling of the most distinctive life forms involving pachycauly, segregated according to level of regenerating buds and duration of leaves and stems (if developed). The caudiciform syndrome is most pronounced in the top centre of the diagram.

WISE AND OTHERWISE

By Michael Buckner

**You only live once
But if you work it right,
Once is enough.**

Joe E. Lewis



Out in the cinder hills to the east of Flagstaff, Arizona, not long after Edward Abbey's death in 1989, a gathering of curious archaeologists were poking around an old Indian ruin when suddenly, cascading from an alluring cobalt sky, an unexpected shadow fell across the group.

"Look up there," someone said. "There's Ed." Looking up, they saw a single turkey vulture studying them, red head bald, red neck featherless, rocking gently on coal-black wings. "Abbey promised to return as a vulture," another said, "the only known philosophizing bird. He said he wanted to try a different career for a change."

Years after the death of the American West's one true contemporary, and certainly its most controversial literary legend, reports of such sightings are on the rise. For those who valued Abbey, the self-styled desert rat, as mentor and friend, prophet and author, as militant defender of the West's remaining wild places, his passing left a profound void. "Ed was a war horse, a wild horse, and one of a kind," says essayist Edward Hoagland.

Maybe that is why, either out of respect or wish fulfillment, when a vulture is seen soaring above the canyon country, some will say, "Abbey lives." After all, he did predict it.

For a lifetime or two, I think I'll pass on eagle, hawk or falcon this time. I think I'll settle for the sedate career, serene and soaring, of the humble turkey buzzard. And if a falcon comes around making trouble, I'll spit in his eye. Or hers. And contemplate this world we love from a silent and considerable height.

Edward Abbey — DOWN THE RIVER

—taken from EPITAPH FOR A DESERT ANARCHIST - THE LIFE AND LEGACY OF EDWARD ABBEY by James Bishop Jr., Atheneum - Macmillan Publishing Co, New York, NY, c: 1994.

See all the little critters at play.

Feet barely touch the ground.

Was I like that at a time so far gone!

But sometimes I remember small flashes.

I used to believe then that I could really

Go like the wind and win all kinds of races.

Oops . . . I forgot to take one of my pills. . .

Dreams are just Dreams.

ANTHONY D'ATTILIO

WISE AND OTHERWISE

In 1993, Charles Glass, along with other important individuals connected to CANTE, A.C. (*an independent Mexican non-profit organization devoted to the preservation and conservation of Mexican plants - mostly succulents from the region around San Miguel de Allende*) were invited by the Federal Commission of Electricity in Nayarit and the Mexican National Institute of Ecology to participate in a massive rescue effort to save succulent plants growing in the vicinity of a newly constructed hydro-electric dam at Aquamilpa on the Rio Grande de Santiago and the Rio Haynamota confluence. The dam would eventually cover 25,000 acres. The backflooding was covering much flora and fauna that required rescuing by multi-agency groups. The following is an excerpt from an article about an experience which occurred during these rescue operations. The article was published in **Cactus File**, November 1993:

The Commission kindly offered us the use of their helicopter in order to investigate the entire length of the dam and to get a better over-all view, so to speak. The helicopter first had to bring in our old friend, Dr. Alfred Lau, who, with one of his Indian boys, was participating in the rescue operations up the Haynamota river. Searching for cacti by helicopter is an unforgettable experience, but the most memorable event of the operation, however, was without question our encounter with 'abejas asesinas' or 'killer-bees'. We don't choose to refer to them with the innocuous sounding epithet meant to allay fears in the general populace, namely 'Africanized bees', for there's no question about it, these are killers and none of us who were on the boats that day will ever again feel completely safe exploring in the wild! What undoubtedly saved our lives was the fact that we had not yet stopped that motor of the Zodiac, nor set the other launch adrift as was our normal procedure. When the bees hit, with absolutely no warning, our skipper, Claudio, was able to maneuver us out of the area relatively rapidly, probably within a half a minute, but it seemed an eternity. Mario, perhaps the hardest hit, must have sustained in the neighborhood of 80 stings, and Charlie at least half that. Marcos has an allergic reaction to bee stings, but fortunately Dr. Estrada, suffering himself from many stings, had injections of anti-venom which he was able to administer to relieve the symptoms.

We returned to San Miguel with two Combis full of plants. We are most grateful to both the National Institute of Ecology and to the State delegation of SEDESOL and to the Commission of Electricity for inviting us to participate in such a massive rescue effort, the first, hopefully, of many more. All plants collected are property of the Republic of Mexico in the care of CANTE, and of the Botanic Garden, for display and for use as mother-plants for propagation. But perhaps the most important result or lesson we took from our rescue operation was: "Be prepared for the next encounter with killer-bees!"

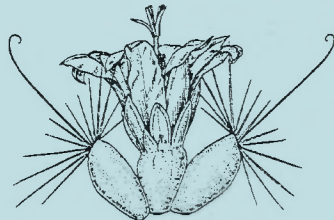
**Summer withered grass to flaxen yellow,
Scorched leaves to brittle paper,
Dried lakes to cracked clay.
Chill autumn brought little relief
Only frosted the devastation.
But with the early gentle rains,
The earth's fissures softened
And desiccated plants began to dissolve.
Slowly, balance comes once again.**

DENG MING-DAO

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

SAN DIEGO CACTUS & SUCCULENT SOCIETY 1997 CALENDAR

1997 - MONTH - 1997	CACTUS OF THE MONTH	SUCCULENT OF THE MONTH	PROGRAM	SPECIAL EVENTS
January 11 @ 1:00	<i>Pachycereus pringlei</i> - THE CARDON Monte Woodward	<i>Othonna</i> - SUCCULENT DAISIES Edward Nolan	Gary Lyons - Survey of the Huntington Collection	Please Bring Refreshments!!
February 8 @ 1:00	Giant Cacti - Ed DeLollis	Caudiciform Succulents - Michelle Heckathorn	Mark Dimmitt - Adenium Hybridization	Anza-Borrego Fdtn , P.O.Box 2001, Borrego Springs, CA 92004
March 8 @ 1:00	<i>Thelocactus</i> - Ric Newcomer	<i>Fockea</i> - NOTHING LIKE A GOOD ONE! Michael Buckner	Woody Minnich - AAA: <i>Astrophytum</i> , <i>Aztecium</i> , <i>Ariocarpus</i>	The desert should be starting to bloom by now! Field Trip??
April 12 @ 1:00	Special Program: Showing Plants - Joey Betzler	Preparing for the Show - Tom Knapik	Phyllis Flechsig & Dorothy Byer - Aloe Conference 1996	The SD Horticultural Society meets the 2nd Monday of the month.
May 10 @ 1:00	<i>Echinocereus of Baja California</i> - Phyllis Flechsig	<i>Hectia, Dyckia, and related succulent Bromeliads</i> - Dorothy Byer	to be announced	Show plant sale info: Betty Athy 469-7647
Saturday, May 31st and Sunday, June 1st (set-up Friday, May 30)	Bring in your plants all day Friday or early Saturday morning.	* Please Volunteer * We need everyone's HELP!!	JUNE SHOW & SALE in Balboa Park - BE THERE OR BE SQUARE!!	Friday 10am - 8pm Saturday Noon - 5pm Sunday 10am - 5pm
July 12 @ 1:00	<i>Escobaria</i> - Ric Newcomer	<i>Aeonium</i> - CANARY ISLAND GEMS Nibby Klinefelter	CSSA Convention San Diego - Town & Country, July 5 - 11	Balboa Park Desert Walk - 4th Sat @ 10am front Botanical Bldg.
August 9 @ 1:00	Icon Cactus - (to be announced) Michael Buckner	<i>Sedums</i> - NO DIMINUTIVES Virginia Innis	to be announced	INTER-CITY SHOW @ Los Angeles Arboretum
September 13 @ NOON 'til we get tired!	PICNIC - NEW LOCATION TO BE ANNOUNCED	PLANT AUCTION	Pot Luck - bring something exciting	HUNTINGTON ANNUAL SUCCULENT SYMPOSIUM
October 11 @ 1:00	<i>Gymnocalycium</i> - Marilyn Newcomer	<i>Orostachys</i> - SUCCULENTS FROM CHINA Joyce Buckner	to be announced	San Gabriel Valley Winter Show @ the Huntington
November 8 @ 1:00	<i>Pelecyphora</i> - EVERYBODY NEEDS ONE! Greg Wade	<i>Haworthia</i> - Kelly Griffin	to be announced	SDC&SS Election Board of Directors 1998 - 1999
December 13 @ NOON	HOLIDAY BANQUET	HOLIDAY GIFT EXCHANGE	HOLIDAY BANQUET	Christmas on the Prado

The San Diego Cactus & Succulent Society's Annual

SHOW & SALE



**Saturday, May 31st
Sunday, June 1st
Casa Del Prado, Balboa Park
for information: 462-1805 or 569-8510**