



MAMMILLARIA THORNERI

ESPINAS Y FLORES

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

A Non-Profit Public Benefit California Corporation

VOLUME XXXIII NUMBER FIVE, SATURDAY, MAY 9, 1998 @ 1:00PM

VOLUME XXXIII NUMBER SIX SATURDAY & SUNDAY, JUNE 6-7, 1998 @ 9:00AM



It's Show Time, Folks! Come One! Come All!
ANNUAL CACTUS & SUCCULENT SHOW AND PLANT SALE

May Program: Michael Buckner

Nothing Fails Like Success

Why? Because you don't learn anything from it! The only thing we ever learn from is failure. Success leads to non-questioning; failure to further questions and quest. Come visit our unusual program this month as Michael Buckner demonstrates the methods and processes for growing great show plants. Michael will teach you how to create show plants by directing their growth and altering their appearance through defoliation, root trimming, rock planting, withholding of certain nutrients, carving and stressing, etc. Learn the difference between staging and the art of bonsai. This is no ordinary slide show — in fact, there will be no slides at all! This is a hands-on demonstration! The dirt will be flying, and the roots will be showing!

Bring your questions and we will work out answers. When to fertilize? When and why to defoliate. When to repot, cut roots, change soil. How to wire your plants and direct growth. When to pinch back. The how's and why's of presentation — plant staging, plant shaping, container selection, soil toppings, and color coordination. How to break the rules and create good plants for future shows. Guaranteed, you will go away inspired — and maybe you will view your plants differently!

Our cover: Hoping to get everyone in a show plant state of mind, we borrowed this woodcut image by A. Blanc from the *Cactus & Succulent Journal* (U.S.), Vol. XLV, 1973: "This woodcut of rare cacti featured the Old Man Cactus which was difficult to obtain and very expensive in 1880s but highly desirable nonetheless. This is the most enduring of Blanc's woodcuts and is still being used by nursery companies like R. H. Shumway of Rockford, Illinois to promote the sale of cactus seeds."

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 OUR JULY ISSUE IS SATURDAY, JUNE 13, 1998

Espinas y Flores, the newsletter of the San Diego Cactus and Succulent Society, Incorporated, P. O. Box 33181, San Diego, CA 92163-3181, is published monthly with the exception of a combined May-June issue (*11 issues per year*). Newsletter circulation is approximately 400 with about 350 issues going to members (*one issue per household*) and an additional 40-50 issues going to educational institutions, botanical societies, cactus & succulent nurseries, local publications, related natural history events & exhibits, and other interested groups or individuals upon request. Subscriptions (*membership dues for an individual*) are \$10 per year for bulk mail within the USA.

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YOUR HELP WANTED!!!

THE PRESIDENT'S MESSAGE:

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Upcoming is our last general meeting prior to our June Show & Sale. This is our club's **BIGGEST EVENT** of the year — and as such — demands **HEROIC EFFORT** to continue with the success that we have had in the past. The key ingredient is participation! So, I would ask all members to please join in and help. There are many, many positions to be filled. For example: show table set-up (Tom Knapik 619-462-1805); plant sales area set-up (Jeff Harris 619-294-5708 or Rick Plant 619-462-5914); Saturday morning show clerking (Kay Quijada 619-282-5919); security - plant "watchers" for show area & sales area (Elizabeth Glover 619-264-6769); kitchen help with coffee, juice, etc. for Judges and clerks early Saturday morning (Rudy Lime 619-229-1634); contributions & assistance with Judges Lunch @ noon on Saturday (Pam Badger 619-589-1223); Q & A regarding plant care, club membership (D'erdra Smothers 619-279-1408 or Joey Betzler 619-569-8510); cashiering (Tom Birt 619-452-0389 or Herb Stern 619-223-9134); assisting with plants sales by keeping the sales tables well stocked, clean and accessible (Michael Buckner 619-222-3216); and last — but not least — helping with breakdown and clean-up (Tom DeMerritt 619-270-5544). Also, please start saving small boxes and paper bags for plant sales — you can bring them in on Friday or Saturday — we usually need all we can get! We need as many volunteers as possible. Please make the big commitment and give one of us a call!

The show itself has been dwindling in the total number of plants exhibited. So, if you have been contemplating showing a plant — please do! Each exhibitor is extremely valuable to the quality of the show. The past few shows have had several genus groups with no representation. Check the show schedule which is included in this issue of the newsletter. Surely every one of you has at least one cactus or succulent worthy of showing!

My Plea: Please CARE and PARTICIPATE!

Thank you for your assistance.

Sincerely, *Thomas De Merritt*

BUDS & BLOOMS / EARTHFAIR - A SMASHING SUCCESS!

We had an incredible weekend in the park — April 18 & 19 — two days of sun and succulents. We talked to many people about plants and our club. Handed out hundreds of information sheets and invited everyone to our June Show & Sale. We also had record sales for this event! Very biggest thanks to the volunteers without whom this could never have happened.

First I want to thank **Jeff Harris** and **Lee Badger** — they were both there all day Saturday and Sunday. Also helping out all day Saturday with set-up and sales: **Susan Hopkins** and **Beverly Kirkegaard**. A special commendation to new member, **Jeff Wright**, who assisted with muscle and enthusiasm on both days. Sunday's volunteers arrived at the crack of dawn, moved all those succulents halfway across the park, set-up the shade tent, staged the plants and kept our tables stocked. These dedicated volunteers stayed the entire day — answering questions, distributing information, and selling plants — THANKS to **Carol Jean Wolcott**, **Stan Yalof**, **Tom DeMerritt**, and **Betty Athy**. Thanks to our relief team: **Tom Knapik**, **Herb Stern**, and **Sara Schell** who came to help with sales and tear down. Thanks also to our vendors, **Betty Athy** and **Michael & Joyce Buckner**, who provided us with a beautiful selection of plants — the basis for our fiscal success. Volunteers are what makes our society work — next time you see these people — thank them! GOOD WORK EVERYONE! Many Many Thanks, *Pam Badger*, EarthFair 98 Chairperson

Our Anza-Borrego Wildflower Field Trip was terrific fun! In spite of all the foul weather predictions — the sun was out most of the day, and the only rain we saw was on the way home. Thank you **Jim Dice** for being our tour guide. I just today got back the photos from this trip — so if you attended this event, make sure you check our July newsletter for pictures of people and plants. And if you took any good photographs that you would like to share with us — please send them in or bring them to the May meeting. We have made a very, very long list of all the plants we identified during this field trip. This, too will be published in the July issue.

We got to thinking about the planned July Bus Trip to the CSSA Cactus & Succulent Show & Sale @ the Huntington Botanical Gardens in San Marino, and suddenly it occurred to us that we could not make the trip on Saturday, July 11th, as this was the date of our meeting! This bus trip will, instead take place on Sunday, July 12th. Bus will leave from the parking lot behind the Organ Pavilion in Balboa Park @ 8:00 am. We shall make another stop @ the Cal-Trans Park-and-Ride lot on the northeast corner of the intersection of Interstate 5 and La Costa Boulevard for our North County passengers. There will be a sign-up sheet at the May meeting. Cost of this trip will be \$25 per person, which includes entrance into the wonderful Huntington Botanical Gardens along with a short educational tour. For further information please call me, **Joyce Buckner @ 619-222-3216**.

A big THANK YOU for the excellent program by **Brian Kemble @** the April meeting. And thanks to both **Ed DeLollis** and **Ed Nolan** for the excellent plant of the month articles and presentations.

Where is **Marylyn Henderson**? Marylyn we miss seeing you at our meetings — hope you are doing well and that you can make it to our show!!! The *Echeveria* category will certainly be deplete without you!

Editor's note to **Bruce Edwards** — we received your letters, and intend to publish an abridged version along with our response in the July issue. Thank you for taking the time to write. We appreciate the feedback.

May 10 - Annual Epiphyllum Show & Sale Room 101, Casa del Prado - Balboa Park, San Diego. This is a great show and sale — take your Mother!!! It's Mother's Day!! For information: (619) 491-9495.

VOLUNTEERS STILL NEEDED TO HELP AT THE MONTHLY PLANT SALES TABLES. PLEASE CONTACT ANY BOARD MEMBER IF YOU ARE INTERESTED IN HELPING US OUT. THANKS!!

May 16 & 17: The 23rd Annual Gates Society Cactus & Succulent Show and Sale - at the San Bernardino County Museum, 2024 Orange Tree Lane, Redlands - telephone (909) 798-8570. Show and sale are open to all.

JUNE 6 -7: SAN DIEGO CACTUS & SUCCULENT SOCIETY SHOW & SALE

Casa del Prado - Balboa Park, San Diego This is an open show! Come One! Come All! And a terrific sale. Show set-up all day Friday, June 5 and early morning Saturday, June 6. NO EXCUSES!! ALL MEMBERS MUST PARTICIPATE — HELP WITH THE SALE — SHOW THEIR PLANTS!!!

June 20: Bruce Bayer, world renowned expert on the genus *Haworthia* from South Africa @ Noon at the Joslyn Senior Center, 724 North Broadway, Escondido. This very special event will be co-sponsored by the SDC&SS. Anyone and everyone with any interest in Haworthias should plan to attend this rare opportunity with a world-class botanical explorer and taxonomist. We are looking into renting a bus or organizing a ride-share so that as many of our SDC&SS members can see this extraordinary speaker as possible. Tentative departure from the Organ Pavilion parking lot @ 11:00am - cost would be \$10. Interested?? There will be a sign-up sheet at the May meeting.

June 20 - 21: Fuchsia Show @ Casa del Prado - Balboa Park — 10:00 am to 5:00 pm.

July 11 - 12: CSSA Show & Sale, Huntington Botanical Garden - San Marino. SDC&SS Bus Trip will be leaving the Organ Pavilion Parking Lot in Balboa Park at 8:00 am on SUNDAY, July 12th and will make one stop in North County at approximately 8:30 for additional passengers. Cost will be \$25 per person. Registration @ the May meeting. This is a great sale and a wonderful opportunity to see the Huntington Botanical Gardens!

August 22 - 23: Inter-City Cactus & Succulent Show & Sale @ the L.A. Arboretum, Arcadia. We think this is the biggest and most fun show. Every year it seems to get even better - if this is possible. If you would like more information regarding this terrific show & sale contact **Michael & Joyce Buckner (619) 222-3216**.

The Monthly Benefit Drawing

April's table added good spirits to our congregation and approximately \$50 to our SDC&SS treasury. Who cared that it poured rainbuckets outside! We had a great time! This month's generous donors were:

Jeff Harris for two books Cacti and Other Succulents by Wendy Madgwick and Cactus and Succulents by Mimi Luebbermann; **Joan Fleer** for a lovely *Tillandsia bergeri*; and **Betty Athy** for *Haworthia* "Lime Green", *Haworthia* "Little Circles", *Mammillaria spinosissima*, *Lithops meyeri* cv. "Hammer's Ruby", and *Notocactus mueller-melchersii*.

Many thanks to all you good folks! Remember, future donors, we **WELCOME** your contributions of clean, healthy plant specimens, or other cactus & succulent related items!

Thanks, **Kay Quijada**

BRAG TABLE WINNERS FOR APRIL 1998: JUDGED BY ED NOLAN

SUCCULENT:	FIRST PLACE:	Joe Quijada's <i>Dyckia estevesii</i>
	SECOND PLACE:	Don Patterson's <i>Euphorbia francoisii</i>
	THIRD PLACE:	Don Patterson's <i>Gasteria baylissiana</i>
CACTUS:	FIRST PLACE:	Don Patterson's <i>Mammillaria craigii</i>
	SECOND PLACE:	Ed Nolan's <i>Mammillaria rekoi</i> var. <i>leptacantha</i>
	THIRD PLACE:	Chris Clayton's <i>Echinocereus reichenbachii</i>

MAY'S BRAG TABLE WILL BE THE LAST "DRESS REHEARSAL" BEFORE OUR BIG SHOW! DON'T BE SHY!! BRING IN YOUR FAVORITE PLANT. EVERY JUDGE, EVERY RIBBON WINNER, AND EVERY TROPHY WINNER HAD TO TAKE THAT FIRST BIG STEP BY BRINGING IN THEIR PLANTS TO SHARE WITH THE REST OF US. NOW IT IS YOUR TURN!! THE BRAG TABLE SERVES AS A GOOD EDUCATIONAL TOOL FOR LEARNING HOW TO SHOW PLANTS. HERE IS WHAT YOU DO: CLEAN UP ONE OF YOUR SPECIAL PLANTS, LABEL IT WITH BOTH ITS NAME AND YOUR NAME, BRING IT IN — GOOD LUCK!!

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THANK YOU REGALEMENT COMMITTEE: RUDY LIME, LEE BADGER, LAURA DeMERRITT & STEFY MANGOLD - FOR FEEDING THE HUNGRY MASSES!!

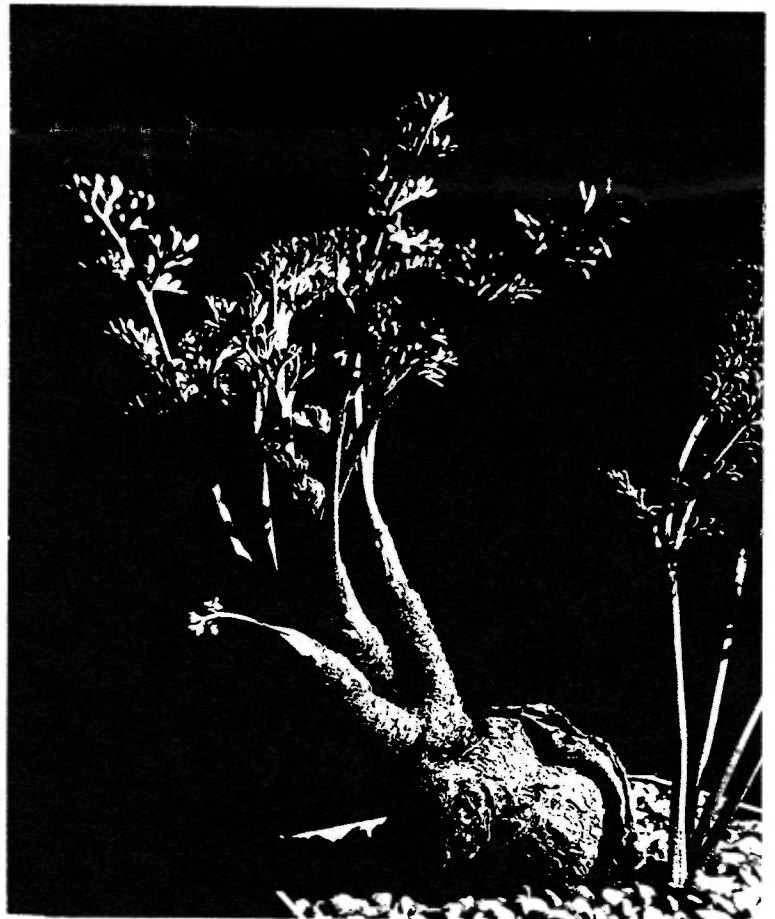
STAGING CACTI & SUCCULENTS

by Marilyn Newcomer

One of the most exciting aspects of growing cacti and succulents is the fun of potting them and/or staging them --- whether for your own enjoyment or to be entered in shows. Ric and I take great pride in our plants and prefer to have them displayed attractively. We enjoy searching for just the right pot and being creative with top dressing and sometimes rocks or props. (Great excuse to go to Baja or the desert and rock hunt!) We personally do this with many of our favorite plants that are not necessarily pristine plants for shows, but maybe a group we are especially fond of. Our friends seem to admire this display as much as we do --- even though our kids all think we're nuts! Are we eccentric to get this carried away? We don't think so ----

At our May 9 meeting, Michael Buckner will be doing some plant staging for our program, a hands-on experience for us all. This is mainly to generate some interest in our club members to get their plants 'spruced up' for our June 6-7 *Cactus & Succulent Show*. He will bring in all his 'tools' and supplies to show you the many choices you have to make your plants attractive. Many of you know just how talented Michael is, especially in staging succulents --- we *all* can learn from him.

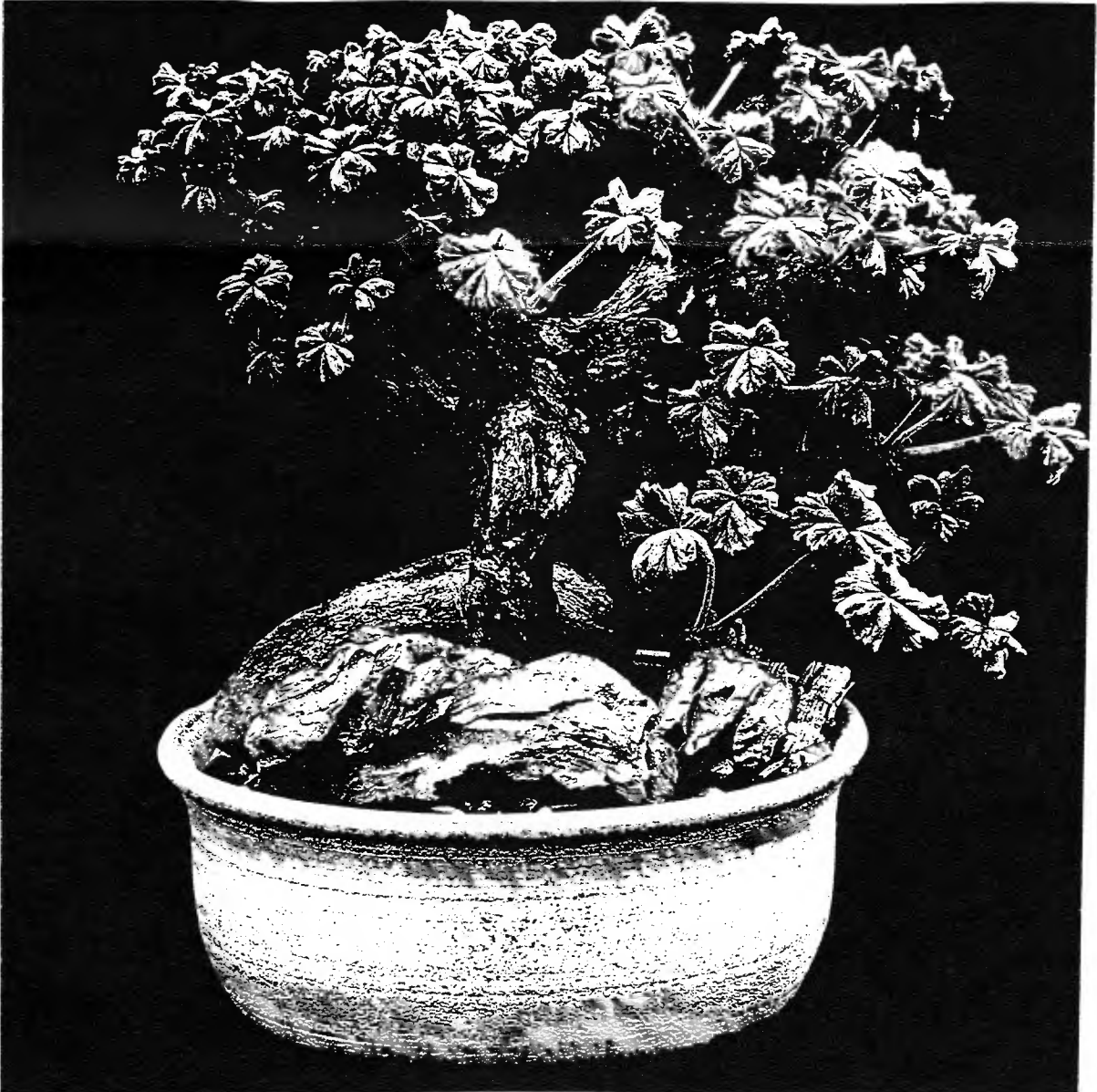
For the benefit of those who are new to this hobby, I would like to point out a few areas of importance. Before starting to re-pot, prepare a working space --- a table in the backyard or a hobby room in the garage. Have the material you need available --- soil mix, pots, and top dressing. When re-potting, the plant should not be "pulled" out of the old pot. We use a screwdriver to loosen the soil by sliding it down the sides of the pot. Tip the pot and slide the root-ball out of the pot. Once the root-ball is accessible, it is possible to gently loosen up much of the old compost away from the roots. Avoid damaging the roots. (Ric is *very careful* about doing this --- I prefer to loosen up the roots and get rid of most of the old compost and am not very gentle in the process! Our results are the same, so I maintain that *most* plants are very hardy.) Inspect the roots for pests or fungus infection. Always use clean pots and relatively dry potting soil. Prepare the new pot by covering the drainage hole with a small square of shade-cloth, screen wire or netting. Place a small quantity of compost on top of this drainage layer. Set the plant at the same depth it was



Lomatium hendersonii

Staging Cacti & Succulents, Cont'd.

originally growing and carefully fill soil around the plant. Knock the pot gently against the tabletop to allow soil to fill in all the spaces around the roots. Push soil down slightly, however, don't pack soil down. Use top dressing around the neck of the plant rather than soil, as the neck is particularly sensitive to moisture. Cacti are not watered after re-potting. Small injuries to sensitive roots usually can't be prevented during repotting. Injured roots are prone to rot when wet. For that reason, the re-potted cacti are placed in a warm but shady area for a few days and watered only after these injuries have had a chance to heal. After potting, with a tweezers, gently remove any planting mix that has lodged between the plants spines or leaves. Choose a pot large enough to give the plant one to two years of continued growth and development, but small enough so that the root system has a chance to spread throughout the soil after an appropriate interval. Do not put a small plant into a huge pot, as the root system can't grow through the soil thoroughly. The "empty" portion is an ideal place for conditions to foster rot. You should consider the type of root the particular plant has. A plant with tuber-like roots needs a deeper pot than one that grows fleshy roots, for which a shallow container is more suitable. Large Cacti and succulents require large pots. The larger volume of soil ensures a balanced condition of temperature and moisture. Also, larger plants need large, sturdy pots that let them keep their shape and remain stable.



Pelargonium cortusifolium.

Staging Cacti & Succulents, Cont'd.

The container should compliment rather than compete with the plant --- and be in proportion. Shape has a big impact for a unified effect. Use a pot of similar shape to the plant or, to create a striking contrast, choose a pot with a markedly different shape. All need drainage holes. The color of the pot should compliment the plant, maybe picking up the spine color on the cactus, or harmonizing with the color of the succulent. There are many kinds of pots to choose from, sandstone or glazed ceramic. There are very deep pots or more shallow ones. Bonsai pots also give you a nice variety with which to work. We are very lucky to have several of our own club members who make a wide variety of pots.

It is hoped that Michael's staging demonstration will encourage you all to evaluate your plants and re-pot and dress up your favorite to enter in the San Diego Show. The act of exhibiting one's plants is a natural adjunct to cultivating them.

A worthy exhibit will be of the correct shape, have a healthy color, not showing signs of scorch or cold damage. The plant should be free from such physical damage as missing spine clusters and broken leaves. There should be no signs of pests or diseases, or damage resulting from such attacks. Present your entry in a clean container with a suitable top-dressing and it will catch the eye of the judge. The important thing is to enjoy the show as a social occasion and use it to measure now successfully you are cultivating your plants.



Ipomoea arborescens.



Adenium obesum.

Any display is enhanced by a top dressing that completely covers the soil. (It also reduces soil erosion, water splash marks on the plant, conserves moisture and suppresses weeds). Use a top dressing in a size and color appropriate to the container. Coming from dry habitats, cacti and succulents offer an enormous scope for creating desert-style displays, using pebbles or rocks --- or unusual top dressing, i.e. lava or volcanic pebbles, or any natural colored rock --- tan, black or red.

Plant reproductions:

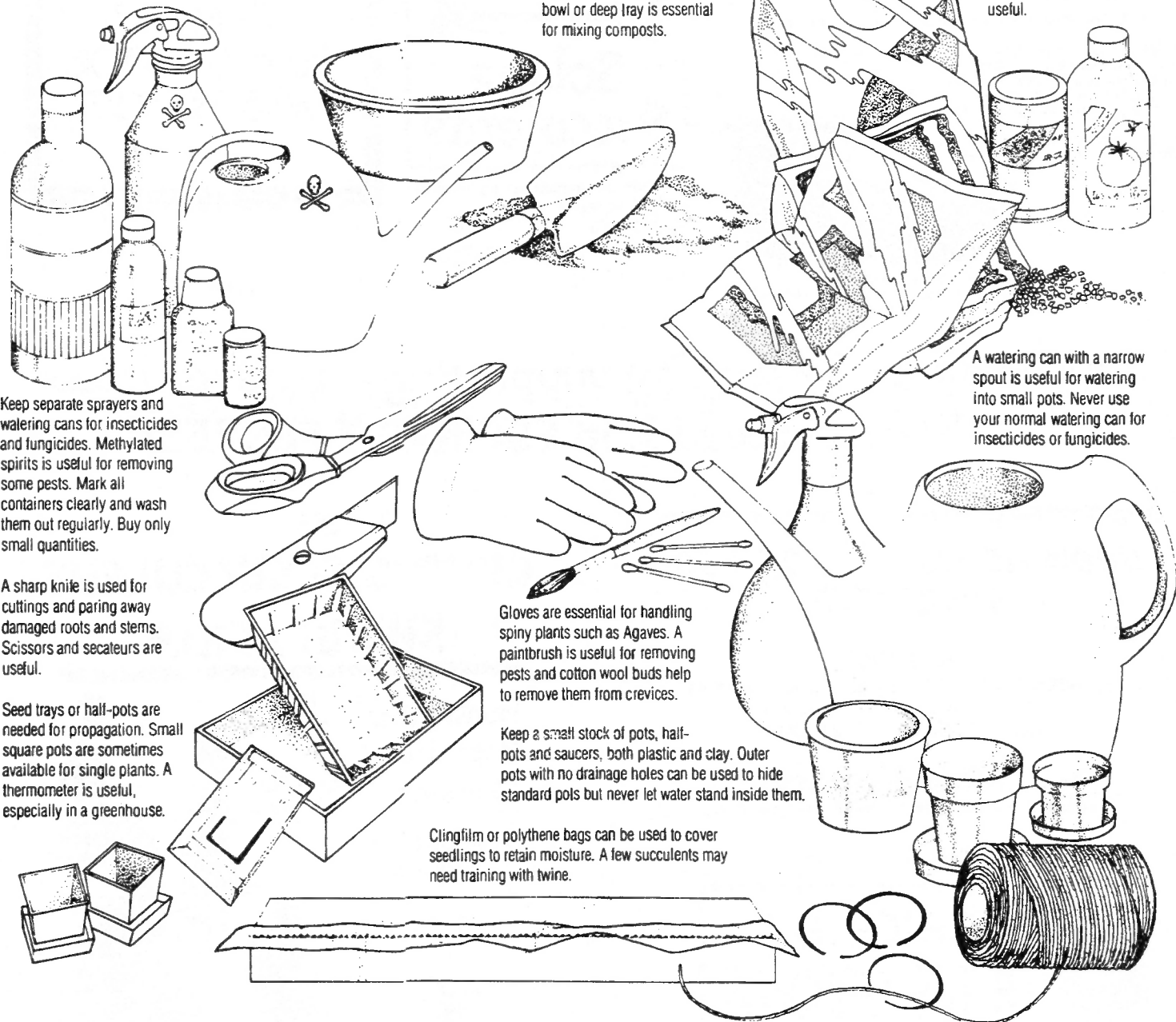
Rowley, Gordon D. **CAUDICIFORM & PACHYCAUL SUCCULENTS.** 1987.

Tools for indoor gardening

Succulents can be cared for with very little special equipment and you can acquire what you need gradually as your collection grows.

A small garden trowel is useful when mixing compost, repotting or adding topsoil to large plants. A large spoon is a good substitute. A plastic bowl or deep tray is essential for mixing composts.

Keep a selection of loam-based or peat-based composts, coarse gritty sand and gravel for top-dressing. Special sand can be obtained from garden centres. Fertilizer and hormone rooting powder containing fungicide are useful.



Keep separate sprayers and watering cans for insecticides and fungicides. Methylated spirits is useful for removing some pests. Mark all containers clearly and wash them out regularly. Buy only small quantities.

A sharp knife is used for cuttings and paring away damaged roots and stems. Scissors and secateurs are useful.

Seed trays or half-pots are needed for propagation. Small square pots are sometimes available for single plants. A thermometer is useful, especially in a greenhouse.

Gloves are essential for handling spiny plants such as Agaves. A paintbrush is useful for removing pests and cotton wool buds help to remove them from crevices.

Keep a small stock of pots, half-pots and saucers, both plastic and clay. Outer pots with no drainage holes can be used to hide standard pots but never let water stand inside them.

Clingfilm or polythene bags can be used to cover seedlings to retain moisture. A few succulents may need training with twine.

A watering can with a narrow spout is useful for watering into small pots. Never use your normal watering can for insecticides or fungicides.

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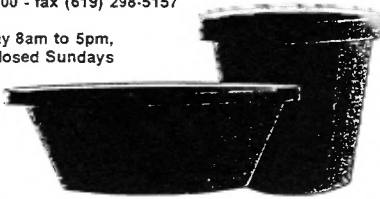
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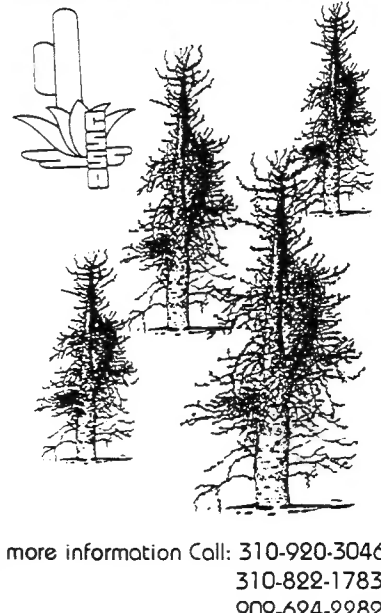
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CACTUS-OF-THE-MONTH: MONSTROSE & CRESTED CACTI

By Tom Knapik

FREAKS R-US

Cacti and succulents already represent a very unusual group in the plant kingdom so in studying their abnormalities we are definitely pushing the envelop. These freaks are treasures to some, at best a curiosity to others, and a livelihood to those in the plant business. I will elaborate on four types of unusual growth in this study of abnormalities we call **teratology**.

Variegated plants are the most well known and commercially important of all four groups. Most consumers love the bright white, yellow, pink, or red stripes and markings of the stem and leaves. The color is caused by a lack of chlorophyll due to an unequal division of a cell. During replication and division, chloroplasts, the organelle responsible for the production of energy from sunlight, are not passed on to the daughter cells. This mutation creates a cell that can not produce food for itself. The degree of variegation determines whether the offset can exist on its own. One hundred percent variegation as in the red caps of *Gymnocalycium mihanovichii* var. *friedrichii* must be grafted or left attached to the adult to survive. Partially variegated plants can usually survive on their own but have less vigorous growth.

Crests represent another commercially significant category but have a much smaller fan club. This abnormal growth occurs when the apical meristem which normally produces cells radially from a point, splits producing cells laterally along an ever growing line. The new growth appears as an arc which can quickly run out of room resulting in waves of convoluted growth. A crested specimen of *Mammillaria elongata* is commonly referred to as 'brain coral cactus' due to this affect. The actual cause for cresting can be physical, chemical, or biological damage to the crown of the plant or a genetic predisposition based on inherited traits. Evidence for the latter comes from field observations of numerous crests in a localized area of a large population and the fact that seeds from crested plants can produce a high degree of crested seedlings. I imagine all succulent plants are capable of cresting however, I have never heard of a crested aloe and welcome any additional discussion during our monthly meet on the subject.

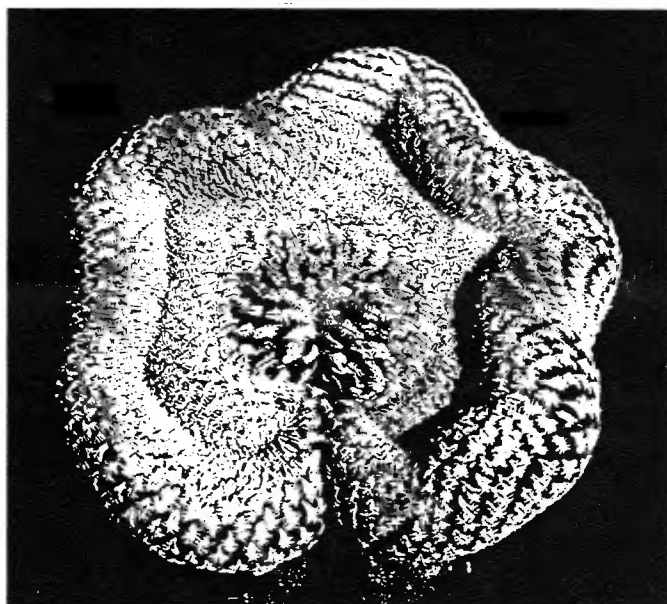
A much smaller group of abnormal growth forms include the spiraling cacti. The apical meristem still produces cells radially from a point, but the rib and spine features spin about that point as the stem grows. These forms are symmetric and quite beautiful, however, some are very rare and difficult to obtain. Three cacti species that produce spiraling growth are; *Cereus peruvianus* which is the easiest to purchase, the fantastic *Machaerocereus gummosus* which not only spirals but also has spines that align in a row that twists up the stem, and the extremely rare *Eulychnia castanea*. If you have any of these or some other species that spirals consider yourself very fortunate for they are truly outstanding forms.

My final group of abnormal growth forms is broad, encompassing just about all that

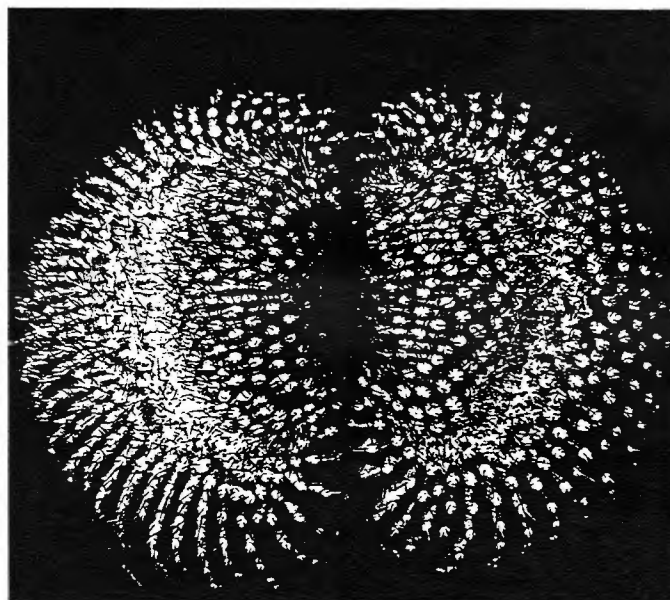
Monstrose & Crested Cacti by Tom Knapik continued

would call them monstrous forms. Some have such character they have been given names such as "Fred", or the "Ming Thing", and "Fairy Castle". I can not explain how or why these mutations occur except that we can not blame El Nino. I do know that their growth is often accelerated and grafted specimens will dehydrate the stock in a short time.

Most of us have a few of these novelties in our collections but **Miles Anderson** of **Miles' to Go**, specializes in these freak forms, variegates, and crests. Walking through his nursery is similar to a circus slide show that has a hall for the bizarre. I had a hard time identifying the genus let alone the species of several monstrosities. Contact him for a catalog or visit his web site at **WWW.MILES2GO.COM** if you're interested in this facet of our hobby. To most people just collecting cacti and succulents is bizarre enough, but, for those of us who love unique life forms, these monstrous plants represent the ultimate expression of what is possible and how unusual our tastes can be. Remember, **Beauty is in the eye of the beholder!**




Turbinicarpus pseudopectinatus



Uebelmannia flavispina

Photographs from **A HISTORY OF SUCCULENT PLANTS** by Gordon Rowley, 1997, Strawberry Press.



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FREE GARDEN CLASSES
9:00 A.M. SATURDAY MORNINGS



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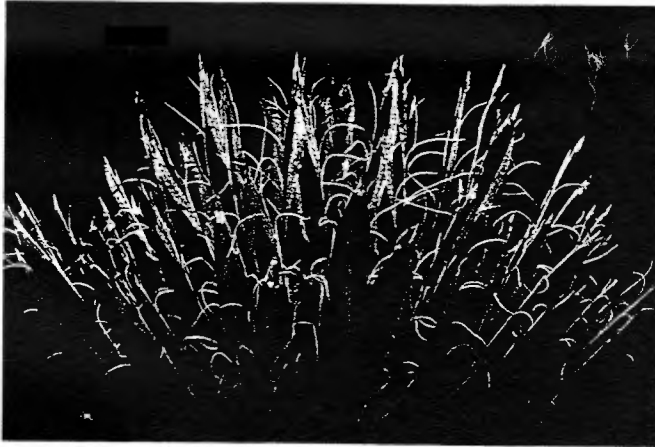
SUCCULENT OF THE MONTH

SMALL AGAVES

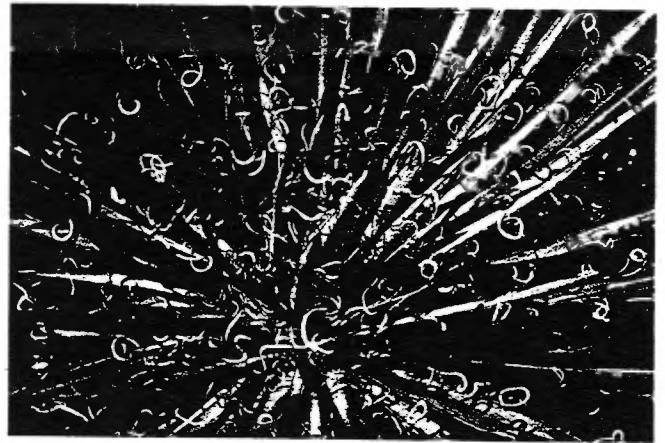
BY PHYLLIS FLECHSIG

We have all heard the horror stories about people who planted an innocent-looking little agave in the back yard, only to have it turn into a monster *Agave americana* hybrid a few years later that threatened to swallow the entire garden and the house with it. Yet agaves are very attractive, tough, hardy plants that ought to have a place in every succulent collection. The secret is to be very selective, and to plant only those guaranteed to stay at a reasonable size. A few choice species that meet this criterion have been selected for this article, and an arbitrary size limit is 30 cm. (12 inches) across--more or less. Some may exceed this width after clustering for several years, but they may easily be reduced in size by removing outside offsets. Also, the plants listed here may be kept in pots for a long time.

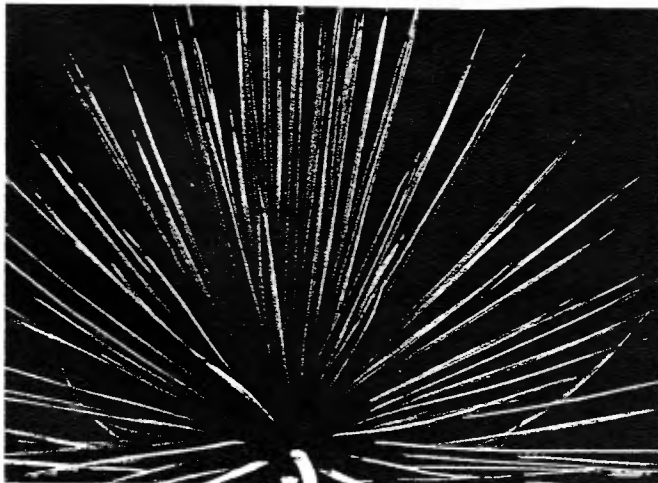
Agave as a genus contains two subgenera: *Littaea*, with flowers usually on straight spikes, and *Agave*, with large lateral branches on the flower stalks. The great majority of the smaller agaves belong to subgenus *Littaea*. One slight disadvantage to the smaller agaves is that they may bloom after only four or five years in cultivation, and an agave rosette that blooms will usually die some weeks or months thereafter; fortunately, most species are self-fertile, and many will produce offsets. A few will actually survive the experience of blooming.



Agave parviflora



Agave x leopoldii



Agave stricta



Agave utahensis var. *nevadensis*

Succulent of the Month: Small Agaves by Phyllis Flechsig continued:

One of the smallest agaves is the beautiful but rare *A. filifera* v. *compacta*, a bright, shiny green rosette with white markings and little threads on the leaf margins. Another, quite different from other agaves, is *A. nizandensis*, a prettily colored plant from the Isthmus of Tehuantepec. It has a matte surface, no spines or teeth, and a pale midstripe on every leaf. Some beautiful small species from our Southwest are such ones as *A. arizonica* (rare and endangered), with dark green leaves that have reddish margins; and *A. utahensis* and its varieties, especially var. *nevadensis* and var. *eborispina*. These have very long terminal spines on the leaves. This particular group is native to high altitudes, and so will stand quite cold temperatures. In the group Parviflorae are *A. toumeyana* v. *bella*, *A. parviflora*, and *A. polianthiflora*. These are all small plants with beautiful white markings and curly white threads on the edges. The last named species is unique among the small agaves in having red flowers instead of the usual yellow.

Some other relatively small agaves are *A. schottii*, *A. schidigera*, and *A. striata* v. *nana*, all of which have narrow leaves with sharp spines at the tip. The well known *A. victoriae-reginae*, which can get fairly large, has several different compact forms, some not officially named, that stay small and show the white markings very early. Perhaps the most beautiful form of this species is var. *ornata*, with really tiny rosettes, exquisitely painted with white. Mention should be made here of *A. pumila*, for years touted as the smallest agave. In its juvenile form it is a tight grayish rosette with only a few leaves; give it 15 years in the ground, however, and it becomes two or three feet across and looks quite different. So keep it in a pot! (It is thought to be a natural hybrid of *A. lechuguilla* and *A. victoriae-reginae*.) Some interesting cultivars that are miniatures have been coming from Japan; one of these is 'Shoji-Raijin.' This is a cute little plant with broad bluish leaves, clustering very readily.

The agaves mentioned here are not the only small species, but these particular ones are fairly easy to find at nurseries.

Agaves are very easy to grow. They need water all year, as they are not actually very succulent. These small species do well in pots, but be sure to give them enough room for their long roots.

Propagation is from seed or from offsets. One caution: do not leave offsets lying about for long after they have been separated from the mother plant; unlike other succulents, they are best planted within a day or two. Agaves in cultivation are not very much subject to pests, though the parviflora types are a favorite home for scale insects.

LITERATURE CONSULTED

- Gentry, H. S. 1982. *AGAVES OF CONTINENTAL NORTH AMERICA*. University of Arizona Press, Tucson, Arizona.
Cactus & Succulent Journal (U.S.). Various issues.

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

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

Our guests were introduced by Ethel Standish.

ANNOUNCEMENTS

Pam Badger announced that the Society will participate in the Buds & Blooms and Earth Day events to be held in Balboa Park on April 18 and 19. She explained the activities that will be taking place and advised that volunteers are needed to answer questions and hand out promotional material on our Club. Anyone interested in helping should contact Pam or Stan Yalof.

Stan Yalof informed the membership that Dr. Christina Mourelle will be the featured speaker at the Palomar Club's meeting on April 25. Dr. Mourelle has been extensively involved with cacti and succulents and it is Stan's feeling that anyone who grows these plants would find this meeting interesting and informative.

Stan also advised that volunteers are needed to help with the planning and the putting together of the two exhibits we will have at the Del Mar Fair, which will be a joint endeavor with the Palomar Club. Stan covered some of the planning that must be done and stated that the project will begin the end of May. It was pointed out that passes to the Fair will be available for all volunteers and that sizable cash prizes are awarded to exhibitors who meet the criteria. A sign up sheet for volunteers was circulated.

PLANTS OF THE MONTH/BRAG TABLE

The genus Pachypodium was presented by Ed DeLollis as the Succulent of the Month and the Cactus of the Month, Neochilenia (Neoporteria) was discussed by Ed Nolan.

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

PROGRAM

Kelly Griffin introduced Brian Kemble who gave a slide presentation on agaves and their relatives.

Tom DeMerritt thanked Brian for his excellent presentation and adjourned the meeting at 3:25 p.m.

Beverly Kirkegaard, Recording Secretary

**Contributions to the Refreshment Table
Most Graciously Accepted!**

*To make a prairie it takes a clover and one bee,
One clover, and a bee,
And revery.
The revery alone will do,
If bees are few.*

— EMILY DICKINSON

WISE AND OTHERWISE

by Michael Buckner



A garden I tend whose blossom never existed.

— PABLO NERUDA

The prickly pear . . . produces a flower that may be violet, saffron, or red. It is cup-shaped, filled with golden stamens that respond with sensitive, one might say sensual, tenderness to the entrance of a bee. This flower is indeed irresistibly attractive to insects; I have yet to look into one and not find a honeybee or bumblebee wallowing drunkenly inside, powdered with pollen, glutting itself on what must be a marvelous nectar. You can't get them out of there — they won't go home. I've done my best to annoy them, poking and prodding with a stem of grass, but a bee in a cactus bloom will not be provoked; it stays until the flower wilts. Until closing time.

— EDWARD ABBEY

In the only attempt I have come across so far to analyze the color schemes of any succulent, Breazeale (1930) relates the wide range of colors found in North American cactus flowers to the need for them to be as conspicuous and easily identifiable as possible in order to attract pollinators. This in turn is directly linked to the color perception of insects, which we know differs from our own. If a rainbow is bent into a circle to provide a color chart, a pair of colors occurring anywhere on opposite sides of the circle are referred to as **complimentary**, and offer maximum contrast. A purple perianth of *Echinocereus*, seen against a green stem and stigmas, is thus ideally contrasted. (Night-flowering cacti use white as most clearly visible in semi-darkness).

Bees are especially sensitive to blue and ultraviolet. They see the blue element in purple cactus flowers, and discern patterning of ultraviolet in some perianths that appear plain to our unaided vision. Birds and butterflies are especially associated with red, and so on. Breazeale notes that complimentary colors are never found adjacent on one petal, because from a distance they would blend to become white, especially if the petals shook in the wind. When two or more colors do appear side by side, they are always **contrasting** — that is, occurring adjacent on the spectrum, like red and yellow, not diametrically opposite one another. Further, they are not in equal proportions: one always dominates the other. This gives maximum impact, both to attract the visitor and to pinpoint the source of nectar.

Gordon Douglas Rowley, *A HISTORY OF SUCCULENT PLANTS*, 1997; Strawberry Press, Mill Valley, CA.

The honeybee industry's ability to provide adequate pollination services has been declining for decades. And it is certain to decline even more in the coming years. The number of honeybee colonies in the United States peaked in 1947 at 5.9 million. The postwar rise in the use of organochlorine pesticides contributed to a 43 percent drop in U.S. honeybee colonies — from 5.9 million to only 4.1 million in 1972 and only 2.6 million in 1995. Even with the switch to organophosphate pesticides and better management of colonies to avoid pesticide poisoning, the industry has never fully recovered.

When we look at the factors currently limiting the honeybee's ability to provide pollination services, we find that several of the threats may be irresolvable. The honeybee tracheal mite, infecting the respiratory system of adult bees, was found for the first time in the United States in 1984, but it now is present in most states. In many states, beekeepers have reported colony losses as high as 50 percent due to this pest. If that were not enough, an external parasite known as the *Varroa* mite arrived in the United States three years later and now inflicts bee colonies in over 30 states. Fungal, protozoan, and bacterial diseases continue to afflict many colonies, as well, and the treatment only suppresses the infections without eliminating them. *Nosema* disease afflicts 60 percent of the colonies in the United States; foulbrood diseases affect another 2 percent. Together, these various pests and diseases result in losses of \$192 million to beekeepers every year — not including reduced crop values due to diminished pollination services. The damages, moreover, are not limited to bee colonies in the field. Bee combs stored in warehouses are constantly under attack by gallerine moths whose caterpillars tunnel through the stored frames, greedily devouring the beeswax itself.

Stephen Buchmann & Gary Paul Nabhan, *THE FORGOTTEN POLLINATORS*, 1996; Shearwater Books, Covelo, CA.

WISE AND OTHERWISE



Plants are specialized to attract certain pollinators. As has been mentioned before, the shape of flowers is associated with certain pollinators. For example, long tubular flowers are pollinated by moths or hummingbirds. Wide open flowers such as sunflowers are often pollinated by beetles. Colors of flowers are also associated with particular pollinators. White or pale yellow flowers attract nocturnal pollinators such as moths and nectar-feeding bats. Red or yellow flowers attract hummingbirds. Red flowers are seldom pollinated by insects because insects cannot see red. Color vision in insects is shifted to the violet end of the spectrum; they are blind to red, but they see violet and ultraviolet quite well. Vertebrates are blind to ultraviolet. It should be no surprise, therefore, that in order to attract insects some flowers incorporate ultraviolet patterns into their blossoms that are invisible to humans.

Allan A. Schoenherr, *A NATURAL HISTORY OF CALIFORNIA*, 1992; University of California Press, Berkeley.

This edition of *Wise & Otherwise* is dedicated to Uncle Lawson "Bear" Weaver, who produces the best honey in the world. Hope you are doing well, Uncle Lawson!

The San Diego Cactus & Succulent Society, Inc.
P.O. Box 33181, San Diego, CA 92163-3181

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Mammillaria thornberi

Espinas y Flores

Editors: Michael and Joyce Buckner - (619) 222-3216
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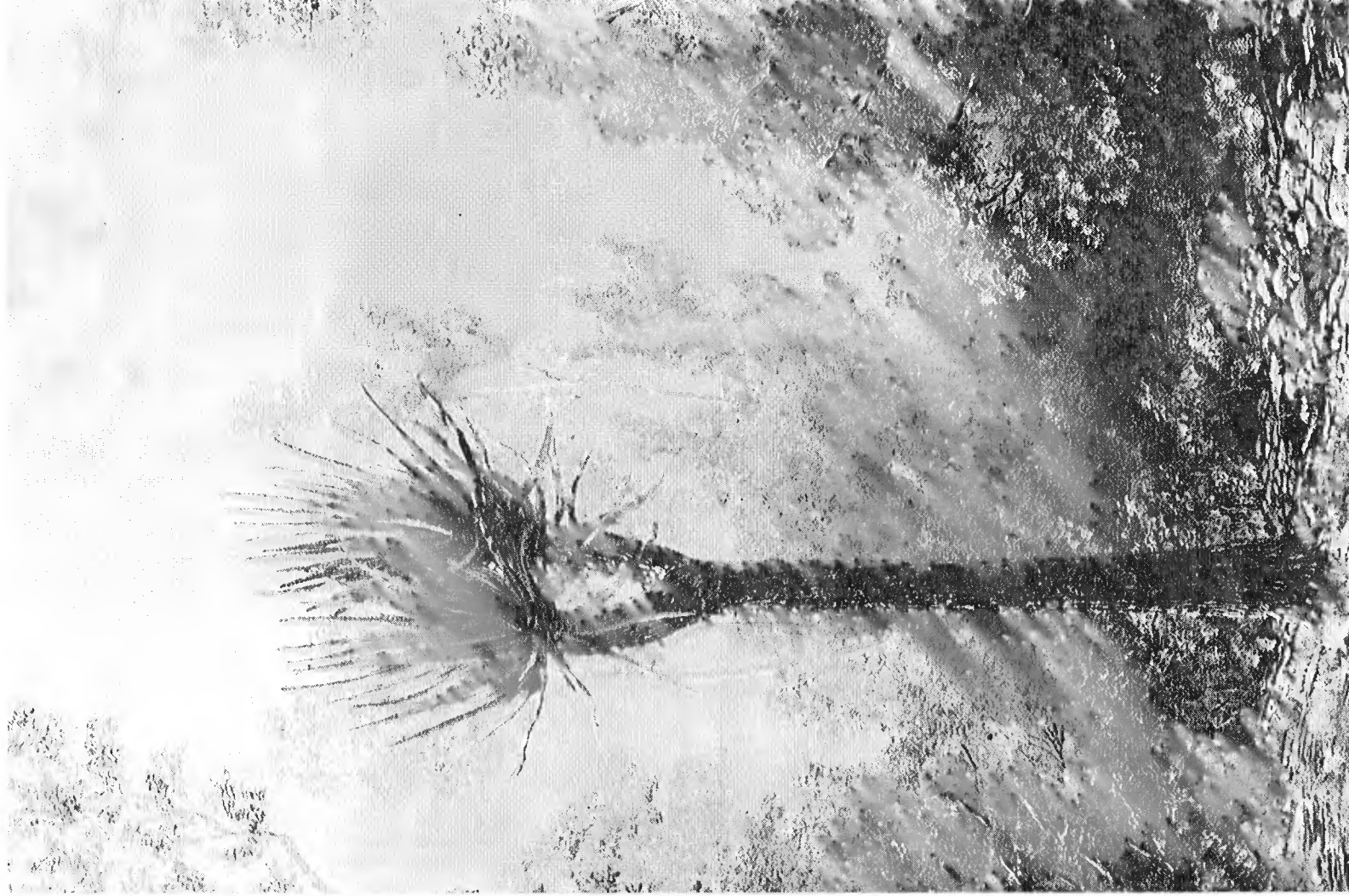
Picnic - Tom and Laura DeMerritt

— Other Committees —

Correspondence: Virginia Innis

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.

San Diego Cactus and Succulent Society
ANNUAL SHOW AND PLANT SALE - JUNE 6 & JUNE 7, 1998
Room 101 Casa del Prado, Balboa Park San Diego, California
PLANT SHOW - Sat., June 6, Noon - 5 PM and Sun., June 7, 10 AM - 5 PM
PLANT SALES - 10 AM - 5 PM Saturday and Sunday



FOR MORE INFO. CALL 619 462-1805 or 619 569-8510

Aloe Suzannae of Madagascar by William Kidd

Classification

Please use the most current classification schedule. Classes 1 - 69 are divided into two sizes: A and B, also one plant per container (A = 5 inches and under, B over 5 inches - measurements are of the maximum inside dimension). Three categories for entries as follows: GREEN cards for exhibitors that have won 10 or less blue ribbons in a recognized cactus and succulent show. YELLOW cards are for participants that have won more than 10 blue ribbons. BLUE cards are for commercial exhibitors and those that want to compete against them. Awards will be selected from any category.

◆ DIVISION I - CACTI

1. Frailea, Blossfeldia
2. Uebelmannia, Buiningia
3. Parodia
4. Notocactus
5. Gymnocalycium
6. Rebutia, Sulcorebutia
7. Echinopsis, Lobivia, Weingartia, Soehrensia, etc.
8. Melocactus, Discocactus
9. Copiapoa
10. Neoporteria, Neochilenia, Islaya, Pyrrhocactus, Horridocactus, Erioseye, etc.
11. Borzicactus, Matucana, Oroya, Denmoza
12. 'Tube flwd. cereoids': Arrojadoda, Haageocereus, Cleistocactus, Oreocereus, Espostoa, etc.
13. 'Wide flwd. cereoids': Trichocereus, Pilosocereus, Cephalocereus, Pachycereus, Stenocereus, Myrtillocactus, Peniocereus, Wilcoxia, etc.
14. Echinocereus
15. Thelocactus, Hamatocactus, Neolloydia, Pediocactus, Sclerocactus, Turbinicarpus, Ancistrocactus, etc.
16. Coryphantha, Escobaria, Ortogocactus, Gymnocactus
17. Mammillaria and allies (single head)
18. Mammillaria and allies (multiple headed)
19. Ariocarpus, Obregonia, Strombocactus, Aztekium, Epithelantha, Pelecyphora
20. Astrophytum, Leuchtenbergia
21. Ferocactus
22. Echinocactus, Echinofossulocactus, Stenocactus
23. 'Epiphytic cacti': Selenicereus, Hylocereus, Heliocereus, Aporocactus, Epiphyllum, Disocactus, Rhipsalis, Schlumbergera, etc.
24. Pereskia, Opuntia, Tephrocactus, Pterocactus, Quiabentia, Maihueunia, etc.
25. Other genera of cacti
26. Crested and Monstrose cacti
27. Variegated cacti

◆ DIVISION II - OTHER SUCCULENTS

28. Alluaudia, Didierea, Decarya, etc.
29. Lithops, Conophytum, ArgYROderma, Pleisopilos, Fenestraria, etc.
30. Trichodiadema, Mestoklema, etc.
31. Other mesembs
32. Anacamperos, Portulaca, Portulacaria, Ceraria, Talinum
33. Kalanchoe
34. Cotyledon, Tylecodon, Adromischus
35. Crassula
36. Aeonium, Greenovia, Monanthes, Sempervivum, etc.
37. Sedum
38. Pachyphytum, Tacitus, Graptopetalum, Orostachys, etc.
39. Echeveria

40. Dudleya, etc.
- Madagascar Endemic Euphorbias:
41. Euphorbia - Milii Type: milii, duranii, beharensis, horombensis, etc.
42. Euphorbia - Stem Type: neohumbertii, pachypodioides, ankarensis, viguieri, stenoclada, platyclada, etc.
43. Euphorbia - Thickened Root or Caudex: decaryi, francoisii, cylindrifolia, etc.
- All other Euphorbias:
44. Euphorbia - spiny
45. Euphorbia - non-spiny
46. Euphorbia - caudiciform
47. Jatropha, Pedilanthus, Monadenium, etc.
48. Senecio, Kleinia, Othonna, etc.
49. Pelargonium & Sarcocaulon
50. 'Stapeliads': Caralluma, Huernia, Stapelia, Hoodia, Pseudolithos, etc.
51. 'Vine forming ascleps': Ceropegia, Hoya, Cynanchum, Sarcostemma, etc.
52. Fockea, Brachystelma, Raphionacme, Gonolobus, etc.
53. Pachypodium, Adenium
54. Cissus, Cyphostemma
55. Ficus, Dorstenia
56. Fouquieria, Idria
57. Ibervillea, Gerrardanthus, Kedrostis, Seyrigia, Xerosicyos and Adenia
58. Pachycauls (thick stems, other than those listed) Bursera, Commiphora, Bombax, Adansonia, Pachycormus, Operculicarya, etc.
59. Caudiciforms & Geophytes (thickened rootstock, other than those listed) Ipomoea, Dioscorea, Bowia, Sinningia, etc.
60. Aloe
61. Gasteria
62. Haworthia, Astroloba, etc.
63. Sansevieria
64. Agave, Yucca, Hesperaloe, Nolina
65. Beaucarnea, Calibanus, Dasylirion, Dracaena
66. Deuterochonia, Dyckia, Hechtia, etc.
67. Any other genus
68. Crested and Monstrose succulents
69. Variegated succulents

◆ DIVISION III - COLLECTIONS

A set of 6 - 10 different specimens that are related by a common theme: genus, form, shape or other character.

70. Cacti
71. Other succulents

◆ DIVISION IV - SPECIALITIES

72. Arrangements - floral and otherwise; cacti and/or succulents
73. Dish gardens and planters

◆ DIVISION V - DISPLAYS

74. Displays and Exhibits

◆ DIVISION VI - ARTWORK - NON COMPETITIVE

75. Cacti or Succulent: Photography and Artwork

Show Rules

Open to anyone with an interest in succulent plants. There is no limit to the number of entries per class or the number of classes entered. No entry shall be entered in more than one class. All property shall be marked with the owner's name, not visible to the judges. Plants must be grown by the exhibitor for at least six months. For the best plant grown from seed, the exhibitor must have raised the plant themselves. Plants may be species or hybrids. Hybrids may be exhibited in the class of either parent. Grafted plants will be accepted in any class. All entries must have properly filled entry cards and appropriate 'flags' (① - ⑤ below); exhibitors are responsible for placing these items with their entries. Entries must be clean, healthy and dry. Plant name tags in pots must be removed (except divisions III and V). Awards must remain with exhibits until the close of the show. Classes with few entries may be combined, classes with too many entries may be split into B and C (for oversize). The show committee reserves the right to reject plants or exhibits and to readjust entries for the good of the show. Show hours must be followed. The San Diego Cactus and Succulent Society will exercise due caution in safeguarding exhibits, however, it cannot assume responsibility for loss of property. Entries are judged against perfection. The judges decisions are final. The show chairman shall make final decisions, except in matters of judging.

TROPHIES AND PLAQUES, are perpetual, except the educational and novice awards. First, Second and Third place ribbons will be awarded in each class; however, should the judges feel that: First, Second or Third place is not merited, it will be withheld.

CACTUS

- | | |
|-----------------------------|---|
| Best Cactus | Phillip Corliss Plaque |
| Best Novice Cactus | San Diego Cactus and Succulent Society Plaque |
| Best Epiphytic Cactus Plant | William & Ruth Nelson Trophy |
| Best Mammillaria | Elibet Marshall Trophy |
| Best Opuntia | James & Shirley Berry Trophy |

OTHER SUCCULENTS

- | | |
|---------------------------------|---|
| Best Succulent | Ruby Falk Plaque |
| Best Novice Succulent | San Diego Cactus and Succulent Society Plaque |
| Best Agave | Doris Rake Plaque |
| Best Aloe | Barbara Jeppe Trophy |
| Best Echeveria | Oliver & Sophie Loyland Trophy |
| Best Euphorbia | Russell & Lydia Evans Cup |
| Best Mesembryanthemum | Samuel & Adela Markey Trophy |
| Best Pelargonium or Sarcocaulon | Wilna Johnson Trophy |
| Best Sansevieria | Richard G. Latimer, Sr. Trophy |

CACTI OR SUCCULENTS

- | | |
|---|--|
| ① Best Baja Plant | Richard G. Latimer Jr. Memorial Trophy |
| ② Best Graft | Bob & Suzanne Taylor Trophy |
| ③ Best Mexican Plant in Show | Dudley B. Gold Trophy |
| ④ Best Plant From Seed Grown by the Exhibitor | Tegelberg Family Plaque |
| ⑤ Best San Diego County Succulent | Julianne Rice Trophy |
| Best Pachycaul or Caudiciform | H. Warren & Virginia Buckner Trophy |
| Best Succulent Bonsai | Rudy & Teresita Lime Trophy |
| People's Choice Award | Rose D'Attilio Memorial Plaque |

DISPLAYS, EXHIBITS AND HIGH POINTS

- | | |
|---------------------------------|---|
| Best Educational Display | Cactus and Succulent Society of America Award |
| Best Exhibit | Reuben Vaughan Plaque II |
| Most Artistic Display | Walter & Hazel Scott Plaque |
| High Points 50 or fewer entries | James & Shirley Berry Trophy |
| Sweepstakes Trophy | Ronald & Marcia Monroe Trophy |