



# Espinas y Flores

BULLETIN OF THE SAN DIEGO CACTUS AND SUCCULENT SOCIETY  
*Affiliate of the Cactus and Succulent Society of America, Inc.*

Volume XXI, Number 2

February 8, 1986

## FEBRUARY MEETING

Saturday, February 8, 1986

Room 101, Casa del Prado, Balboa Park

1:30 p.m.

### "ADAPTATIONS OF XEROPHYTES"

by

John Trager

Huntington Botanical Gardens

John will use a two-projector, slide-dissolve program to look at the specialized adaptations that have evolved in xerophytic plants, enabling them to survive in arid environments. Succulent, water-storing tissue has developed in some 10,000 species of plants, in more than 40 different plant families. Succulence, however, is just one of several fascinating adaptations exhibited by xerophytes.

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Deadline for March Issue of Espinas Y Flores -- February 22 - Thanks to all contributors-  
Please keep you ideas coming. Mary

## Succulent-of-the-Month

### COTYLEDONS AND ADROMISCHUS

These two genera are very closely related, and at one time all species of Adromischus were classified as Cotyledons. The genus Cotyledon is at present represented by about 150 species of herbs, sub-shrubs, and succulents which are distributed throughout Europe, Africa, Asia, and Mexico. About 36 species of succulent Cotyledons have been described, and these are native almost entirely to South Africa. The majority of these 36 species were transferred by Tolken in 1978 to a "new" genus called Tylecodon, which is an anagram of Cotyledon.

The name Cotyledon is derived from the Greek, and means "cup-shaped" or "hollow" - a possible reference to the leaf shapes of some of the species. They are mostly branching succulent shrubs or sub-shrubs with smooth, waxy, opposite leaves. The flowers are tubular, bell-like, and pendulous, in shades of orange, yellow, and red. The Tylecodons are distinguished from Cotyledons by their spirally-arranged, soft, herbaceous, non-waxy leaves which are deciduous. The type species of this group is T. cacalioides, and it, along with T. paniculatus and T. wallichii, reportedly contains a poison called Digitalis glycoside which, if ingested, attacks the central nervous system, causing paralysis. All Tylecodons and Cotyledons are winter-growers and summer-dormant, and this is particularly pronounced in the Tylecodons, which drop their leaves in the summer. During this time they should receive very little water.

Adromischus are generally quite small plants and somewhat resemble miniature Cotyledons. They are perennial rosette plants with densely-crowded leaves. The generic name derives from two Greek words and means "large branch or stalk". There are somewhere between 30 and 50 species, all native to South Africa. The most obvious difference between Adromischus and Cotyledons is the flower - Adromischus flowers are narrower and more erect, and generally of a greenish-white shade. Their interest lies not so much in their flowers as in their great variation in leaf color and form. Their leaves are often mottled with deep purplish-red "splotches" on a background of silvery-green, gray-green, or blue-green, and the leaf shapes may vary greatly among plants of the same species, or even on the same plant. Some of them form thick growths of wispy aerial roots, resembling reddish hair, on the old stems, and many of them eventually form thick, gnarly bases or caudices which give them the appearance of ancient miniature bonsais. These intriguing features, coupled with their small size, make all species of Adromischus excellent pot-plant subjects.

Like Cotyledons, Adromischus seem to be somewhat hardier than Crassulas; they will tolerate full sun and some species will withstand several degrees of frost. In habitat, Adromischus grow in rock crevices, in sandy soil, often in partial shade un-

der bushes, at elevations ranging from sea level to mountain slopes. Although a few species - such as A. rupicolus, A. mammillaris, and A. marianae - are distributed over a wide range, most are known from only one or two localities.

Adromischns, like Cotyledons and Tylecodons, are winter growers and dormant in the summer, when they should be watered very sparingly if at all. They require small pots, excellent drainage, and very strong light. A clue to the cultivation of many of the species is suggested by the habitat of A. alveolatus: this miniature silver-green gem grows in fissures of granite (along with a species of fern!), on almost bare sloping rock faces, with very little other vegetation. The rare and desirable A. blosianus grows under bushes and in shallow rock crevices, in association with Crassula plegmatoides, C. columnaris, and many other Crassulas.

Both Cotyledons and Adromischns are easily propagated from cuttings, and Adromischns will also readily produce new plants from leaves. Cotyledons, on the other hand, will not produce plants from leaves - a somewhat puzzling situation considering the close relationship of the two genera.

Literature consulted:

- |                  |   |
|------------------|---|
| Barkhuizen, B.P. | <u>Succulents of Southern Africa</u>  |
| Court, Doreen:   | <u>Succulent Flora of Southern Africa</u>   |
| Haselton, Scott: | <u>Succulents for the Amateur</u>   |
| Hutchison, Paul: | <u>Studies in the Crassulaceae</u> (Cactus and Succulent Journal of America, Jan.-Feb., 1953; Sept.-Oct., 1953)                               |
|                  | <u>Icones Plantarum Succulentarum</u> (Cactus and Succulent Journal of America: scattered issues from Nov.-Dec., 1956 through May-June, 1960) |
| Kimnach, Myron:  | <u>The Genus Adromischns</u> (Cactus and Succulent Journal of America, March-April, 1953)   |
| Lamb, Edgar:     | <u>Popular Exotic Cacti in Color</u>  |
| Rowley, Gordon:  | <u>Illustrated Encyclopedia of Succulents</u>   |

By Dorothy Dunn

## COTYLEDON UNDULATA

(by Floyd L. Gable)

(Reprinted from Espinas y Flores, June, 1971, Vol. VI, No. 6)

COTYLEDONS belong to the Crassulaceae family. They are native to South Africa, Southwest Africa, Abyssinia, and the Mediterranean area.

They are succulent shrubs often growing compactly and forming clumps. Many have beautiful leaves and others have very peculiar stems such as C. wallichii, C. cacalioides, C. reticulata and C. dinteri. The last-named species go completely dormant in summer and lose all their leaves. They are characterized by thick, knobby stems caused by heavy leaf bases which remain permanently on the plant.

With the exception of the above four species, most will propagate easily from cuttings. These four grow easily from seed.

Some species with beautiful leaf structures and coloring are:

C. orbiculata: has fleshy leaves two to three inches in length and width which are edged in red. There are four distinct varieties of C. orbiculata.

C. radicans (rooting from the stem) is low-growing with sharp pointed fleshy leaves of yellow that turn bright red in cold weather. It blooms in May.

C. teretifolia (having terete or cylindrical leaves) is very distinctive with clusters of erect dark green hairy cylindrical leaves.

Other interesting species are C. barbeyi, C. ladismithiensis, C. macrantha, C. grandiflora and C. gracilis.

Succulent-of-the-month C. undulata is undoubtedly the choice of about 30 known species in the genus. It is widely distributed and cultivated. It is glabrous (smooth; devoid of hairs or pubescence), shrubby, erect, up to three feet in height. It has large beautifully undulating leaves.

The bell-shaped five-petalled flowers are pendant in clusters on a stalk which arises from the center of the plant. They are bright yellow and tinged with red.

To maintain the whitish bloom on the leaves, the plant should be watered at ground level, not sprayed from above. Correct watering is well worth the effort to have a flawless specimen.

Ordinary soil mixtures suit this plant. It is not overly sensitive to excess moisture or other varying soil conditions. It is native to the Cape Province, South Africa, its exact habitat not being known.

(Contributed by Dorothy Dunn)

Many Thanks to Helen Hegge and Rowena Thompson for donating plants to the Cactus Garden in Balboa Park.

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Bragging Plant Winners for January - - - - -

- |     |  |
|-----|--|
| 1st | Rudy Lime for his Pelargorium SP. (Clan William) |
| 2nd | Teresita Lime for her Ibervillea Soforienses     |
| 3rd | Ruby Winters for her Gymnocalycium denudatum     |
- 

Those who have volunteered to bring refreshments to the February meeting are:

- |                       |                  |
|-----------------------|------------------|
| Rowena Thompson       | Marie Pearce     |
| Elibet Marshall       | Olga Holtzer     |
| Kathe Roberts         | Eileen Smith     |
| Mary Ann Alexanderson | Rose Robilotta   |
| Melba Batchelor       | Vera M. Garrelts |
| Virginia Natwick      | Anna Conett      |

As a reminder, be sure to place your name on your contribution so that you can get credit for it. Also the Kitchen has asked that anyone who brings a cake, to please have it cut in serving pieces when you bring it. Thanks --

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COMING EVENTS FOR FEBRUARY AND MARCH

- |              |   |
|--------------|---|
| Feb. 15      | Descanso Garden, La Canada ,CA, Tour \$19.50<br>Pickups in Balboa Park, La Jolla, Carlsbad.<br>Call 232-2661 for reservations.          |
| Feb. 18      | San Diego Floral Association Meeting<br>Casa del Prado, Majorca Room, Balboa Park<br>Call 232-5762 for reservations.                    |
| Feb. 22 & 23 | San Diego Orchid Society Mini Show<br>Casa del Prado, Majorca Room, Balboa Park<br>Sat: noon - 4:30 p.m.; Sun: 10 - 4:30 p.m. Free      |
| Mar. 1 & 2   | San Diego Daytime African Violet Society's 5th Annual Show<br>Casa del Prado, Majorca Room Balboa Park<br>Sat & Sun 10 - 4:30 p.m. Free |



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At our January meeting, Seymour Linden, the new President of CSSA, gave Martin Mooney a plaque in appreciation for the fine work he did at the National Convention last summer.

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REMINDER - This is the last Espina Y Flores that you will receive if you have not paid your dues. Martin Mooney is accepting your due payment.

## GRANTS AWARDED

At the January Board meeting the Board of Directors of the San Diego Cactus and Succulent Society awarded the following grants:

- 1) to Quail Botanical Gardens: \$485.00 to construct a display of Middle American Crassulaceae (echeverias, sedums, graptopetalums, etc.) as an adjunct display to their Middle American Garden now in the planning stage.
- 2) to Huntington Botanical Gardens: \$477.74 for the purchase of equipment to be used exclusively for the maintenance of their Desert Garden, including a proportioner for use in the Desert Garden and Conservatory.
- 3) to the San Diego Natural History Museum: \$307.00 to purchase equipment for archival storage of the approximately 2,000 slides comprising the cactus and succulent slide collection of Reid Moran. Dr. Moran donated this collection to the Museum upon his retirement in 1982.

Action on a fourth grant proposal, received from the San Diego Wild Animal Park, was tabled at the January meeting, pending the resolution of certain questions regarding the proposal and its possible modification. Additionally the Board of Directors hopes to provide some funds to the Anza-Borrego Committee for the purchase of in-holdings within Anza-Borrego Desert State Park. The amount will be decided at the February Board meeting.

These grants by our society have come from a healthy treasury, the result of several consecutive years of successful annual and monthly plant sales. In past years the Society has given money for such worthwhile projects as the purchase of in-holdings within Anza-Borrego Desert State Park, the purchase of Santa Cruz Island by The Nature Conservancy, and the first Succulent Plants Symposium at Huntington Botanical Gardens. It is the belief of the Board of Directors that in each case these awards have gone for projects that will promote conservation, knowledge and appreciation of succulent plants. With the continued success of our plant sales, we hope to be able to continue these efforts in the future.

## FINANCIAL BACKER-PART TIME PARTNER WANTED

To start modest woodshop, manufacturing items for people with plants!

Club member, woodworker, builder, plant lover has designed unique line of items, both creative and practical, which includes a modular shade-house system, a 3-dimensional trough planter system, a stair-step plant stand and display system, and more to be marketed through garden centers and garden clubs.

I'll handle the shop and all field work, you help me with the business end and public relations (dealing with people). I need \$10,000, positive cash flow, in the first 10 weeks. Great satisfaction for both of us!

Also, I would like a space to start my shop-it can be a garage-with some outdoor space, also.

Joseph Wood, 435-4634.

(I have seen some of Joe's work, and I believe it has potential. I also have some photos of his systems. Call me for further information, if you wish. Lee Phelps, 280-9690)

## BOOK REVIEW

The Genus ECHINOCEREUS by Nigel Taylor

Review by F. C. Thrombley

One evening while sitting around a campfire with a friendly group of nature lovers in the Central Desert of Baja California Norte, I made the following statement: All taxonomists are either 'lumpers' or 'splitters'. One member of this group is a world renowned Taxonomist and I know I stepped on some toes with that statement.

After reviewing Nigel Taylor's work on ECHINOCEREUS, in my opinion, he falls well within the category of 'lumpers'. He has reduced the number of species to 44 from Curt Backeberg's 80 plus species. Backeberg of course, in my view, falls into the category of the 'splitters'. Taylor does have a disclaimer, however, when he states that the monograph is based primarily on the study of literature, and of documented, preserved and living plants in the United Kingdom. He further acknowledges that field study of these plants has not been done by him. A monograph on the Genus ECHINOCEREUS has certainly been needed and has been a long time in coming. Nigel Taylor has done an excellent job in condensing the species within the framework of his training as a Taxonomist. I believe that all those that use this monograph will be able to find their favorite ECHINOCEREUS listed even though it may have been reduced to a variety status or placed as a variety of another species. He also gives his reasons for these changes and in detail that is understandable.

As a layman who counts the Genus ECHINOCEREUS as one of his favorites, I applaud Taylor and Kew Gardens for this work. I think every serious collector of these plants should have this book in his or her library.

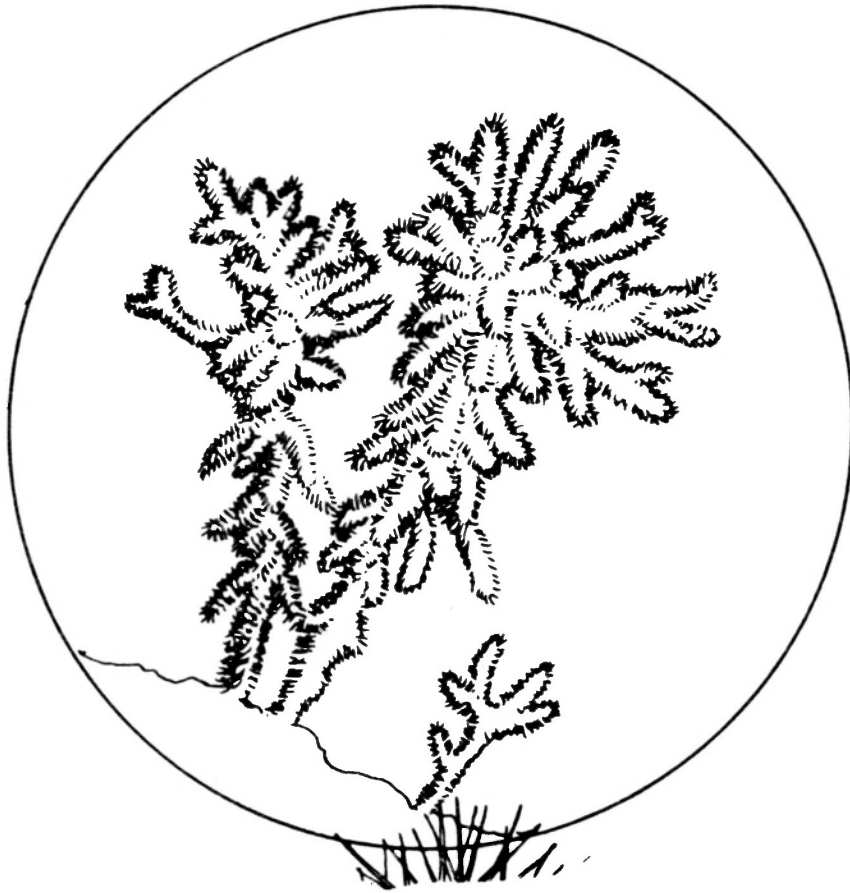
EDITORS NOTE: There are two copies of this book now in our Library



Above: ECHINOCEREUS TRIGLOCHIDIATUS (*Claret cup cactus*). An easily grown, small Echinocereus which requires a bit more than average water in summer. It is winter-hardy, if kept very dry. The bright green stigma is characteristic of the genus. The common name is derived from the ruby red cup-shaped flowers. *E. viridiflorus* is another good indoor plant which is also winter-hardy.

I'M A TEDDY BEAR

by Sandy Frost  
1-1-86



I'm a Teddy Bear  
I'm a Teddy Bear Cholla  
I appear soft and cuddly

But don't touch me  
or one of my joints  
will jump out and  
stick to you like glue  
and hurt worse  
than a porcupine.

I'm a cactus you know  
I live in the Mojave  
and the Sonoran Desert.

If you can get rid of  
my stiff silvery-yellow spines  
I'll drop to the ground  
and grow to 8 feet tall

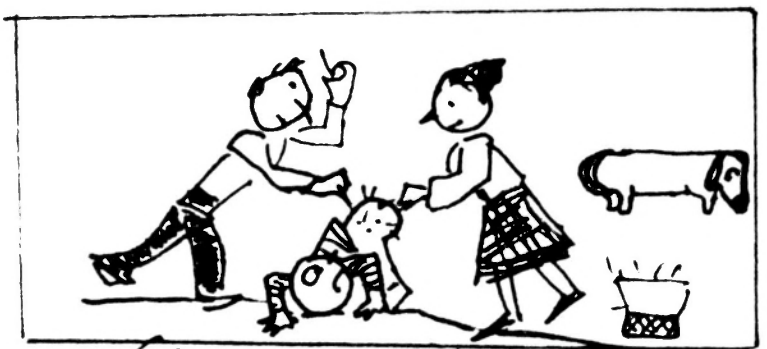
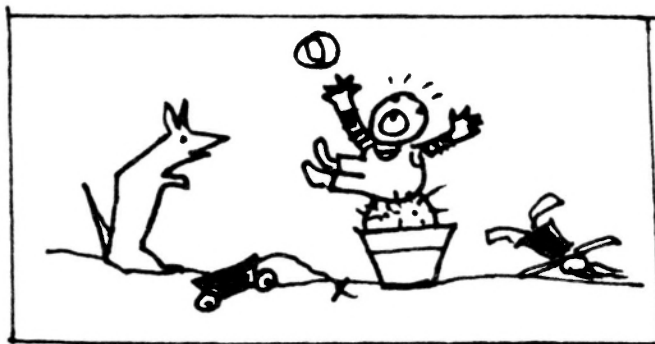
I'm a Teddy Bear  
I'm a Teddy Bear Cholla  
I appear soft and cuddly  
come on and hug me.

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This is a possible new column. If you contribute, we will illustrate your item. Keep it spiny and short or turgid and succulent.

MY MOST MEMORABLE ENCOUNTER WITH A CACTUS (OR SUCCULENT)

Although only three years old at the time, I will never forget my day-long upended position. A spiny potted cactus plant (species? genus?) is what I landed in



Throughout the years - I am now a venerable almost 70, I have maintained a healthy respect for cacti. How in the world did I ever become foolhardy enough to join a cactus society? Must be an example of what they call "you CAN TEACH an old dog new tricks."

Elibet Marshall

Editors note: Elibet told me that this incident happened in Switzerland. There couldn't have been too many cacti around!



## CACTI-OF-THE-MONTH

### Rhipsalidanae

by Rick Latimer

The cactus family <sup>divides</sup> naturally into three subfamilies: Pereskioideae (including the "primitive" leafy species that have no glochids), Opuntioideae (including the notorious chollas and prickly pears, for example, that do have glochids), and the Cereoideae which is somewhat discontinuous from the other two subfamilies. The so-called "desert" members of this subfamily are the usual subjects of this column, since they are the most popular among the cactophiles. The so-called "jungle" or epiphytic members are (in recent years) placed in their own tribe (Hylocereeae [for example, Britton & Rose placed them in four different tribes]), while the "desert" members are grouped into the Cereoideae. The tribe Hylocereeae, of course, has subtribes of which Hylocereinae (including for example Hylocereus), Phyllocactinae (including for example Epiphyllum), and Rhipsalidinae.

Because the "jungle" cacti appear in the same type of habitat (namely jungle environments) and are of similar appearance (most of them have reduced their stems down to only two ribs - an adaptation to a wetter and shadier habitat) it has been assumed that they are all relatively closely related. Myron Kimnach of the Huntington Botanical Gardens believes that "epiphytism in the Cactaceae has arisen independently three or perhaps four times ... due to convergence." In the case of the Rhipsalidanae, instead of growing out of the genus Disocactus (the most advanced genus of Phyllocactinae), it is "derived from ("desert") cacti that probably resembled Corryocactus and Erdisia. These two genera, as well as the most primitive members of the Rhipsalis alliance, inhabit roughly the same areas and habitats in Peru, Bolivia, and Argentina. There is a nearly continuous morphological intergradation connecting these shrubby terrestrial cacti with such advanced genera as Schlumbergera." According to Kimnach the Rhipsalidanae includes the three genera that are the subject of this month's CACTI-OF-THE-MONTH: Lymanbensonia, Rhipsalis, and Schlumbergera.

At the primitive end of the Rhipsalidanae is the genus Lymanbensonia, named in honor of Lyman Benson. Originally assigned to Acanthorhipsalis, the monotypic species L. micrantha is not common in collections. This species is native to Peru and is not epiphytic, but grows in full sun in the ground in treeless habitats. The stems are triangular and flat and bristly. The flowers have the typical (of this subtribe) very small ovary without a tube (in contrast to Epiphyllum species, for example) that we see all the way into Schlumbergera. The shape of the flowers is not like the other members of the obsolete genus Acanthorhipsalis (which are shaped like any member of the genus Rhipsalis: a simple miniature cup shape), but consists of several layers of petals forming a pseudotube reminiscent of Thanksgiving Cacti from the side (but in miniature) and somewhat roseate as viewed from the front. Incidentally, the flowers are red.

The other members of Acanthorhipsalis (such as A. monacantha a common plant with orange Rhipsalis-like flowers and known under the trade

name of 'Bittersweet') along with the genus Pfeiffera (with very bristly quadrangular stems and large [for this group] bristly fruit [a whole  $\frac{1}{2}$ " in diameter!]) have been transferred into Rhipsalis, because they are all <sup>now</sup> that really different. The members of the genus Rhipsalis include those species that look like dwarf Epiphyllums, such as R. pachyptera and R. - crispata and those that look like showers of green cylinders (perhaps the most unactus looking plants of the cactus family!), such as R. capilliformis or R. baccifera (an exception to the rule of cacti only being native to the New World), and those that fall inbetween and are sometimes geometric (such as R. paradoxa or R. warmingiana) or otherwise (such as R. houletiana or R. mesembryanthemoides). All the flowers of species like these are under 1" in diameter and whitish in color (with [Erythro]Rhipsalis pilocarpa having the prettiest flowers). Although they are not spectacular, the masses of blooms brighten up this somewhat poor flowering time of the year. The fruits are usually small smooth berries that are most often white (hence 'mistletoe cactus'), magenta, or black. The plants make beautiful baskets as we saw at our 1983 SDCSS Show with Warren Buckner's special display.

Also added to this genus at the "advanced" end are species formerly found in the genera Hattiora, Pseudozygocactus, and even Rhipsalidopsis. The flowers become colored again with R. (H.) salicornioides ('drunkard's dream') having yellow flowers that turn orange then red on successive days like some opuntias, R. (H.) herminiae with dark pink flowers, and R. (Psz.) epiphylloides yellow. R. (Rpds.) rosea has pink flowers and R. (at one time Schlumbergera, Epiphyllopsis according to Backeberg) gaertneri has red flowers (that turn orange when pressed). These last two species have stems reminiscent of Schlumbergera (flat, dichotomously branching links with elongated areoles at the tips of the stems which are bristly and produce new links and flowers). However, since the flowers are not really very different in shape than the other Rhipsalis species, the genus Rhipsalidopsis has been reduced to a subgenus of Rhipsalis.

The genus Schlumbergera is unique with its two-tiered zygomorphic flowers (although elsewhere in the cactus family there are zygomorphic flowers in such genera as Rathbunia, Borzicactus, and Cochemia where the flowers are mostly red [and visited by hummingbirds?]). The species belong to two subgenera: Zygocactus with three named species - S. russelliana, S. truncata, and S. orssichiana (which are popular and easier to grow than) Epiphyllanthus with two or three species that have similar flowers, but with links that look like miniature opuntias (but no glochids)! These species are all native to an area near Rio de Janeiro, Brazil. Many popular hybrids of S. truncata are seen at the supermarkets and some nurseries starting usually in November. One may find such hybrids as 'White Christmas', 'Gold Charm' (both of these lose their pure white and yellow colors to a pinkish flush when subjected to a temperature below 57°F), 'Peach Parfait', 'Kris Kringle' (red), 'Purple Pyramid', and 'Lavendar Doll'. These plants are perhaps the most popularly indoor grown cacti.

All of these plants are grown in shaded conditions like the other "epicacti". They prefer high humidity, well aerated soil with humus, more water than the desert cacti (but some are prone to rot such as R. - rosea and the Epiphyllanthus species), and not too much heat or cold

(most of the *Rhipsalis* species are frost tender). Specimens are most often grown as hanging baskets.

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W. Barthlott & A. J. S. McMillan, "A New Species of *Schlumbergera*", CSSA Journal (50:1), p. 31-4.

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Franz Buxbaum, Morphology of Cacti.

J. F. Horobin, "*Schlumbergera russelliana* - at last!", Epiphytes (7:28), p. 80-88.

Myron Kimmach, "The Origins of Epiphytic Cacti", The Huntington Symposium on Succulent Plants (Schedule Notes), 1985.

Myron Kimmach, "*Disocactus ramulosus*", CSSA Journal (33:1), p. 11-16.

Myron Kimmach, "*Lymanbensonia* (Cactaceae), A New Genus for *Acanthorhipsalis micrantha*", CSSA Journal (56:3), p. 100-101.

Myron Kimmach, "A Revision of *Acanthorhipsalis*", CSSA Journal (55:4), p. 177-182.

Myron Kimmach, "*Rhipsalis incachacana*", CSSA Journal (57:6), p. 258-262.

Elmer J. Lorenz, "Rhipsalis Anyone?", Pacific Horticulture (?).

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1985 FLORAL ASSN. OPEN HOUSE

The 1985 Floral Association Christmas Show was represented by this society. Verna Pasek did a patio display with many of her plants. Added to it was John Williams' succulent Christmas Tree (mostly *Aeonium haworthii*) that we so enjoyed at our own Christmas Party and at the November meeting, and an orange flowered Christmas Cactus belonging to Rick Latimer (many people wanted to know where they could buy one). Dr. Phelps had one of his famous Bonsai succulents in the patio exhibit too. In other parts of the Open House, SDCSS members Elizabeth Glover and Mildred Anderes has succulents.

# SAN DIEGO CACTUS & SUCCULENT SOCIETY

## OFFICERS

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Quail Botanical Garden - Phyllis Flechsig

S.D. Botanical Garden Foundation - Elizabeth Glover

S.D. Floral Association - Verna Pasek

Liaison & Publicity: Cathy & Sandy Frost

The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti, other succulents and exotic plants. Meetings are held the second Saturday of each month at 1:30 pm in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held after the general meetings. Annual dues are \$8.00 per single member per year, \$2.00 for each additional member of a household within a family. Single copies of Espinas y Flores are 60 cents.

Editor

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