

**RAIN, RAIN, RAIN!
ROT, ROT, ROT!**

Espinas y Flores

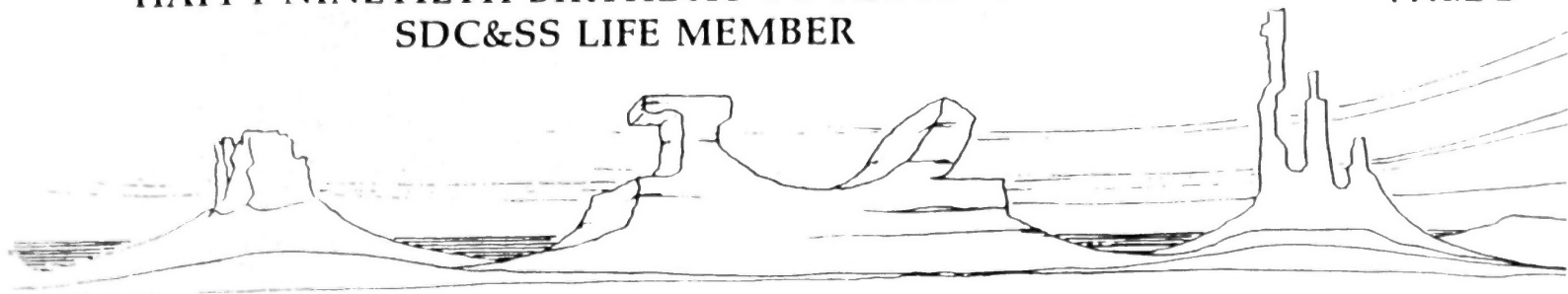
THE NEWSLETTER OF
THE SAN DIEGO CACTUS & SUCCULENT SOCIETY, INC.

VOLUME XXVIII NUMBER TWO, SATURDAY FEBRUARY 13, 1993

Woo.... What happened to my Espinas y Flores in March? Oh, I forgot to pay my dues to Laura DeMerritt ... Dog Gone!! Don't miss out ... send in your 1993 dues today.



FEBRUARY PROGRAM: A VERY SPECIAL PROGRAM (aren't they all!) AS WE HOST URS EGGLI, FRESH FROM HIS MOMENTOUS FIELD PROJECT - STUDYING THE CHILEAN CACTI & RESEARCHING THE FAMOUS RITTER COLLECTION FIELD NOTES. DR. EGGLI AUTHORED THE MONOGRAPH "*ROSULARIA*", IS CURATOR OF THE ZURICH SWITZERLAND BOTANICAL GARDEN AND IS TREASURER OF THE I.O.S. (International Organization for Succulent Plant Study).



PLEASE RENEW YOUR MEMBERSHIP

MEMBERSHIP: LAURA DE MERRITT, 619-571-5127. DUES ARE \$10.00 FOR SINGLE MEMBERSHIP AND \$5.00 FOR EACH ADDITIONAL MEMBER OF SAME HOUSEHOLD (ONE ESPINAS y FLORES MAILED). CHECKS SHOULD BE MADE OUT TO S.D.C.& S.S. AND MAILED TO P.O.BOX 33181, HILLCREST STATION-102, SAN DIEGO, CA. 92163-3181.

MEETING TIME: MEETINGS ARE HELD THE SECOND SATURDAY OF EACH MONTH (EXCEPT FOR JUNE & DECEMBER) AT 1:30 pm IN ROOM 101 - MAJORICA ROOM, CASA DEL PRADO, BALBOA PARK. COME EARLY FOR PLANT, CONTAINER & SUPPLY SALES AND SOCIALIZING. BOARD MEETINGS ARE HELD AT NOON PRIOR TO GENERAL MEETING.

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Cover illustration - a remarkable close-up drawing of the corky epidermis of a Turtle-back plant *Dioscorea elephantipis*, by Royce Wood; taken from a limited edition sponsored by Singers Growing Things, 1976.
.....

Good show on the Brag Table: Lot's of participation and lot's of excellent plants!

FIRST PLACE: Rudy Lime's *Euphorbia bupleurifolia*

SECOND PLACE: Alan Weiss's *Pseudolithos migiurtinus* (in bloom)

THIRD PLACE: Rudy Lime's *Bowie volubilis*.
.....

VOLUNTEERS NEEDED



FOR THE BAJA HILL AT THE WILD ANIMAL PARK

On February 20th (Saturday) 9:00a.m. to Noon, volunteers will meet at the Wild Animal Park to spend time working with the 'Baja Collection". The major emphasis will be on the control of mustard and preparing the soil for experimental plantings. Afterwards, volunteers can spend the rest of the day exploring the Park. We will be setting up experiments with ground covers in four areas, your help will be appreciated, please call Joey Betzler at 239-0804 for more information.

Last November Joe Stead came in from Orange County and Chuck Krohn from Solana Beach, neither are members, but club members that did help were: Martin Mooney, Rick Latimer, Dan Kennedy, and Rick Plant. Stan Yalof lives near the park and asked to help. In January Val Rodriguez, Chris Jensen, Mike Chapman, and Corlee Panker helped with the garden. Thank you all very much!!
.....

Thanks to Joe Clements for an excellent January program on landscaping with succulents. Now, we all need more information on proper drainage techniques!

.....
It is with great sadness that we announce the passing away of SDC&SS member Warren "Bud" Alexanderson. He will be missed. Our hearts and sympathy go out to his wife and daughter, Gloria.
.....

Answer to January's back page puzzle: The bar - burr will soon bee back (back of house- back of cup) weight (wait) ten min-utes pl-ease. Hope it did  drive U  's!!!!
.....

* What do you see? An example of a figure with components that make no sense at all to us, but which in its totality produces a recognizable image. An example of Gestalt closure.
from MESSENGERS OF PARADISE by Charles Levinthal, c.1988 back page puzzle

PLEASE BRING GOODIES FOR THE REFRESHMENT BREAK!

A VERY SPECIAL THANKS TO LOIS ZARANKA FOR PREPARING OUR REFRESHMENT BREAK AND CLEANING UP AFTERWARDS - PLEASE LEND LOIS A HAND IN THE KITCHEN!!!

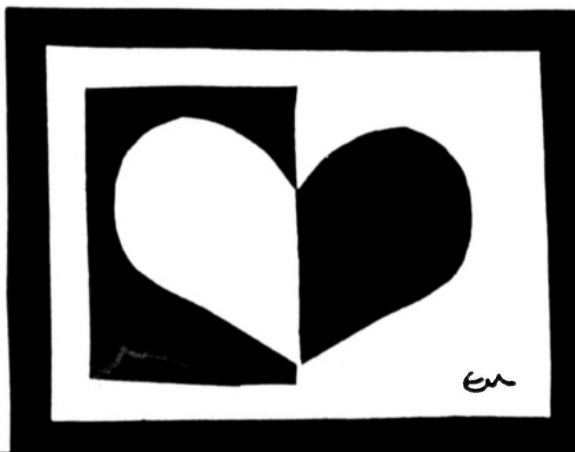
THE REGALEMENT (REFRESHMENT) COMMITTEE STILL NEEDS A FEW GOOD MEMBERS - PLEASE CONSIDER HELPING OUT - ALL VOLUNTEERS NEED NOT WORK EVERY MONTH - THEY CAN ROTATE THEIR RESPONSIBILITIES - WE WANT TO ACKNOWLEDGE OUR LATEST VOLUNTEER (AND OFFICIALLY A NEW MEMBER): STEFFI MANGOLD! THANKS STEFFI, YOU ALREADY WERE OF GREAT ASSISTANCE AT THE HOLIDAY PARTY AND WE WELCOME YOU TO THE CLUB AND TO THE REGALEMENT COMMITTEE!!!

REFRESHMENT VOLUNTEERS

FOR FEBRUARY:

☆☆☆☆☆☆☆☆

- Helen Barkdoll
- Barbara Hamm
- Beverly Kirkegaard
- Phyllis Flechsig
- Susan Barker
- Sarah Jervey
- Elizabeth Glover
- Evelyn Chatham



FOR MARCH:

☆☆☆☆☆☆☆☆

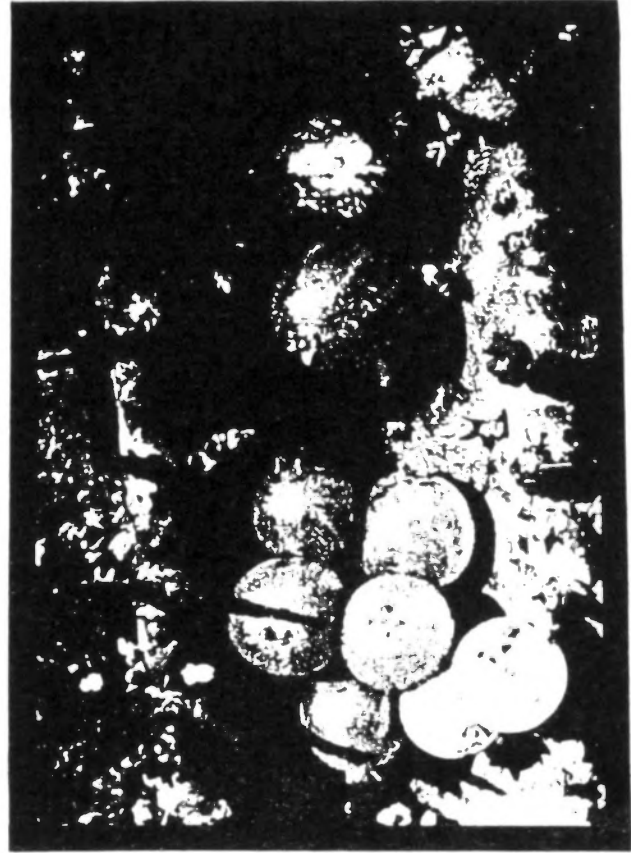
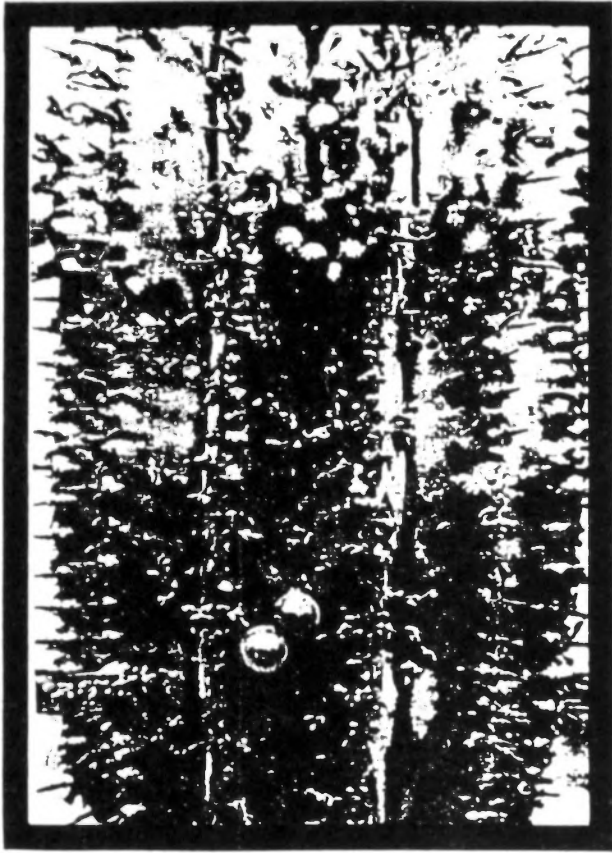
- Lorna Burke
- Curt Hammel
- Amna Cornett
- Millie Richter
- Mary Ann Alexanderson
- Michael & Joyce Buckner
- Ruth Richardson
- Jim & Millie Williams

CALENDAR OF EVENTS

BOTANICAL SHOWS BALBOA PARK, RM 101 CASA DEL PRADO

Feb. 6 & 7	San Diego Camellia Society 46th Show	Sat: 1pm-4:30pm	Sun: 10am-4:00p
Feb. 20 & 21	San Diego Orchid Society "Mini" Show	Sat: 12pm-4:30pm	Sun: 10am-4:30p
Mar. 6 & 7	San Diego Daytime African Violet 12th Show	Sat: 1pm-5:00pm	Sun: 10am-4:00p
Mar. 12 - 14	San Diego Orchid Society 47th Spring Show (Scottish Rites Mex. Bldg.-Mission Valley)	Preview:	Pri: 6pm-10:00p
	Admission: \$4.00	Sat: 9am-6:00pm	Sun: 9am-4:00p
Mar. 20 & 21	Ikebana International 25th Exhibit/Show	Sat: 11am-4:30pm	Sun: 11am-4:30p
Mar. 27 & 28	Balboa Park African Violet Club 18th Show	Sat: 12pm-5:00pm	Sun: 10am-4:00p
April 3 & 4	Exotic Plant Society 15th Annual Show	Sat: 11am-4:30pm	Sun: 11am-4:30p
April 17 & 18	San Diego-Imperial Iris Society 28th Show	Sat: 12pm-5:00pm	Sun: 11am-4:30p
April 24 & 25	San Diego Bonsai Club 28th Annual Show	Sat: 11am-5:00pm	Sun: 11am-5:00p
May 1 & 2	Heartland African Violet Society 12th Show	Sat: 1pm-5:00pm	Sun: 11am-5:00p
May 9	San Diego Epiphyllum Society 23rd Mother's Day Show		Sun: 11am-5:00p
May 15 & 16	San Diego Geranium Society 21st Annual Show	Sat: 12pm-5:00pm	Sun: 10am-5:00p
May 22 & 23	Balboa Park Bromeliad Study Group Show	Sat: 11am-4:30pm	Sun: 11am-4:30p
June 5 & 6	San Diego Cactus & Succulent 25th Show	Sat: 1pm-5:00pm	Sun: 10am-5:00p

Viscum minimum



Here is some further information regarding Alan Weiss's *Euphorbia obesa* implanted with the parasite *Viscum minimum* on its globose side. This minute parasite is usually found in nature on *Euphorbia polygona* and *E. horrida*. It consists of a series of finger-like internal growths (Haustoria) on the host plant. The parasite is a curiosity and is illegal to sell by California law. Why, then would one infect their own plants? First, for the Botanical anomaly of the parasite and secondly for the attractive single seeded fruit which becomes a beautiful bright red berry. For more information see article written by Frank Horwood (re-printed from English Journal volume 27, page 96-98) in The Euphorbia Journal, Volume I, pages 45-48, Strawberry Press c. 1983. And Alan, please bring it back when in fruit!

WINTER CARE OF CACTUS & SUCCULENTS

by Joseph A. Betzler

Prepare plants for spring growth by checking soil and pot conditions; transplant as needed. Soil mix should be light and water should flow freely through it. Don't forget to fertilize your plants on a regular basis. As danger of frost passes acclimate protected plants to outdoor conditions once again. Protect sensitive plants from the rain and sun. Bright sun can burn plants that have been living indoors.

Newly purchased plants should be separated from others until they show signs of good health and growth; check for pests and disease. Treat any pests early, watch for snails also. The wet winter we had will bring on rodents, these are a big problem. Mice and rabbits are cute but no cacti are safe from their nibbles, protect your plants.*

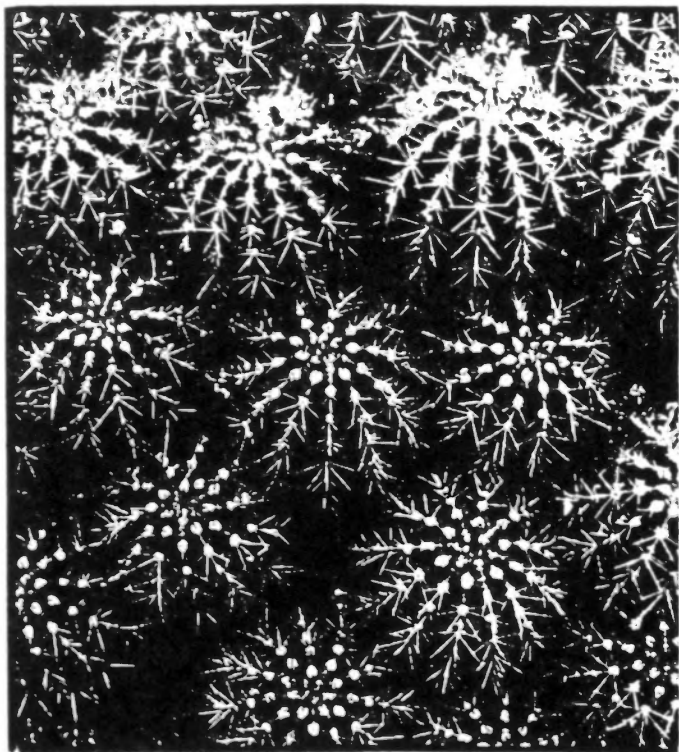
**Note from editor: If you don't have a cat - perhaps you should!*

CACTUS OF THE MONTH

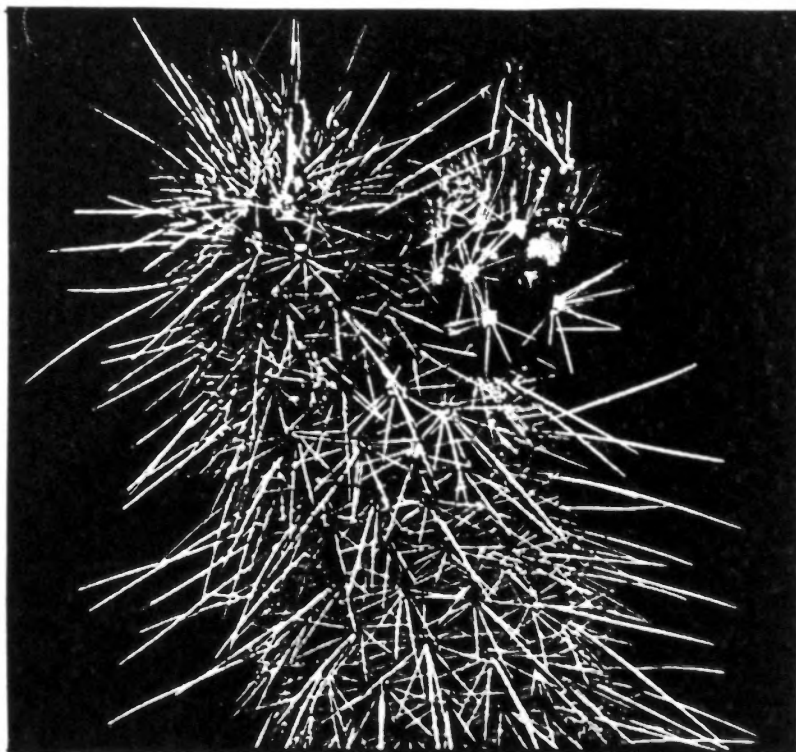
ECHINOCEREUS

The genus Echinocereus is a middle-sized group of North American cacti much prized by collectors for their large, showy flowers that last for several days. The name means "spiny candle-like plant," or, if you prefer, "hedgehog cereus." The plants are characterized by (usually) multiple short, bristly or spiny stems, flowers that burst through the epidermis of the plant, and globose fruit that is spiny, the spines falling off when the fruit is ripe. There are exceptions to all these characteristics: a few species have small, near spineless single stems, or white stigmas, or flowers that emerge from areoles in the usual cactus fashion, and so on. Flower color covers a wide range, from green or brownish to red, purple, orange, yellow, two-toned, and even white. The plants' native habitat is from south central Mexico (Oaxaca) north to South Dakota, and from the California deserts east to central Texas. The actual number of species varies with the author consulted: Backeberg lists 91; Taylor has reduced this number to 44; Benson lists 39, of which 13 are native to the United States.

Most of us have seen the native southern California species in habitat: Echinocereus engelmannii, with very large bright magenta flowers and long multicolored spines, in the low desert; and E. triglochidiatus, with smaller, bright red flowers, in the Mohave desert. Both Benson and Taylor assign numerous varieties to these two species.



Echinocereus triglochidiatus var. *melanacanthus*, stems from above, showing the felted young areoles at the apex of the stem. (Homer L. Shantz)

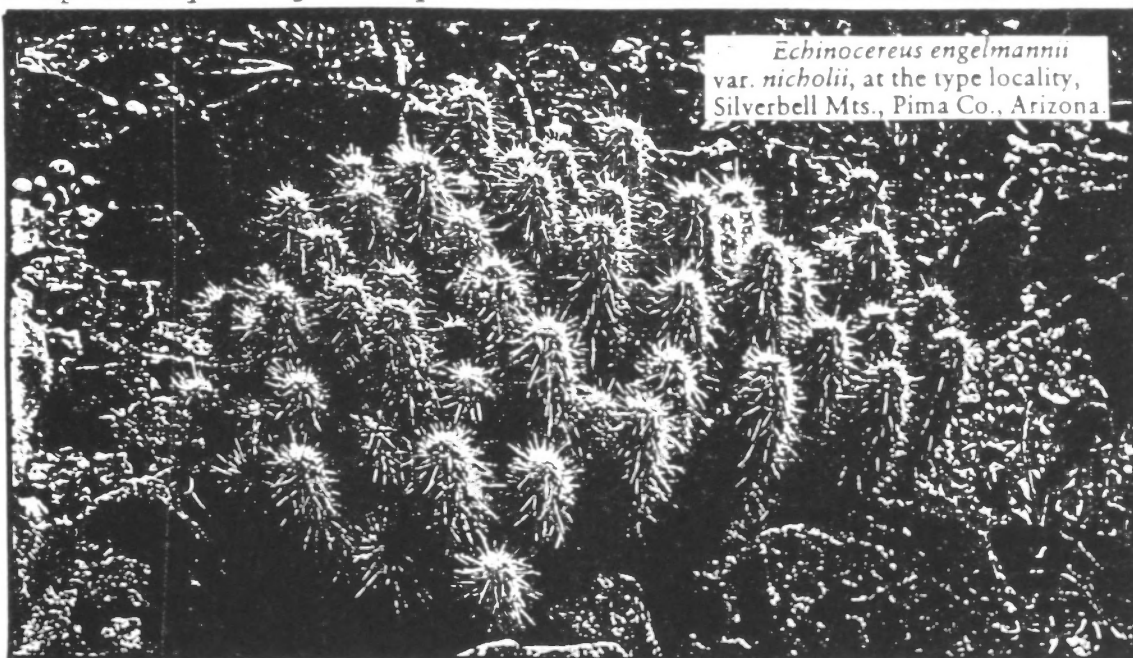


A hedgehog cactus, *Echinocereus fasciculatus* var. *boyce-thompsonii*, showing the dense cover of spines, the longer ones directed mostly downward (less markedly so than usual), and a mature fruit in the process of losing spine clusters. (Robert H. Peebles; from *The Cacti of Arizona*, eds. 1-3)

Some echinocerei grow into clumps of hundreds of heads, but there are a few choice miniatures for the grower with limited space. The smallest of all is the tiny E. viridiflorus v. davisii. A mature plant may be only half an inch across. As the name suggests, its flowers are green. E. palmeri is a charmer: fat tuberous roots pull it into the soil when it is dry; it has few ribs, short spines, and large purple flowers. E. pulchellus is a little green globe with very short spines and large purple flowers; it seldom branches. A third is the better-known E. knippelianus, with a soft, nearly spineless body (except for a few long bristles) and pink flowers.

Travelers in Arizona may see any of several species of Echinocereus, such as several varieties of E. triglochidiatus; E. fendleri, with a few spiny stems and large magenta flowers; E. fasciculatus, also with large magenta flowers but with larger and more numerous stems; several varieties of the above-mentioned E. engelmannii, including the yellow-spined var. nicholii in Organ Pipe Cactus National Monument; and the "Arizona rainbow cactus," E. rigidissimus. Travel to New Mexico or southern Texas and you will see still more kinds, too many to mention here.

Echinocerei are reasonably easy to grow. They need very strong light, and, as always, very good drainage. Larger kinds may be grown out in the garden. They do get pests; use of a systemic insecticide twice a year is advisable. Propagation may be from seed--a huge assortment is available--or from cuttings. A cool winter rest is good for them, and will encourage profuse flowering the following spring. Some may shrivel or shrink down into the soil, but don't worry; when watering begins again they will pop right up ready to greet you with their wonderful flowers.

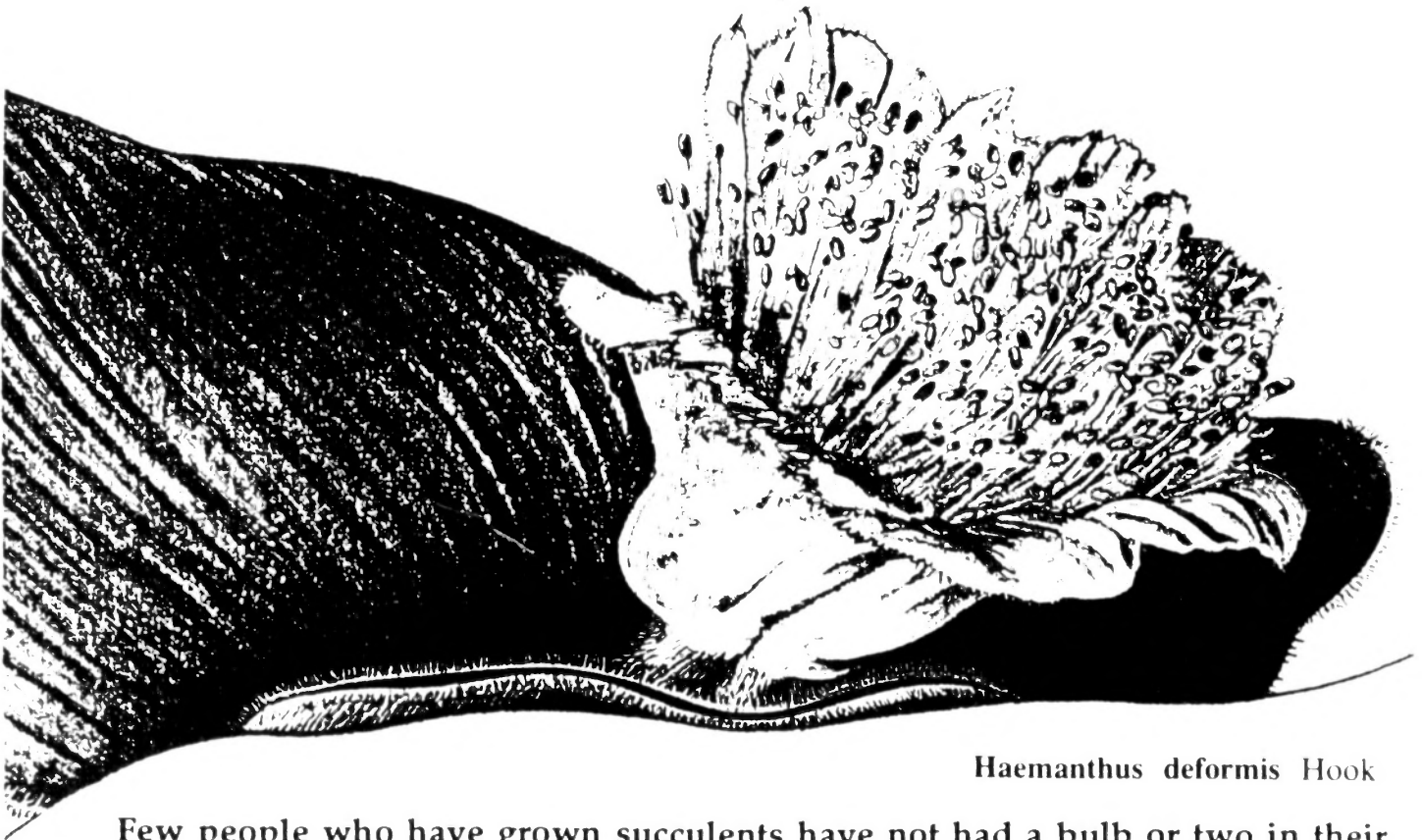


LITERATURE CONSULTED

- Benson, L. 1982. The Cacti of the United States and Canada. Stanford University Press: Stanford, California.
- Pilbeam, J. 1992. The five yellow-flowered Echinocereus. The Cactus File, vol. 1, no. 7, p. 10-12.
- Taylor, N. P. 1985. The Genus Echinocereus. Timber Press: Portland, Oregon.
- Taylor, N. P. 1988. Supplementary notes on Mexican Echinocereus (1). Bradleya 6, p. 65-84.

SUCCULENT OF THE MONTH: SUCCULENT BULBS

by DYLAN HANNON



Haemanthus deformis Hook

Few people who have grown succulents have not had a bulb or two in their collections at one time or another. Whether 'true succulents' or simply good companion plants, it may be useful to first consider the general definition of a bulb, that is, a small, compact stem surmounted by enlarged, fleshy leaf bases and bearing roots below. These leaf bases, or bulb scales, are usually closely imbricate and quite succulent.

As the bulb provides the essential service of drought evasion quite efficiently, it would seem perhaps redundant for such a plant to produce succulent foliage, but the following is a look at the bulbs which are generally granted admission to the exclusive Succulent Club.

SUCCULENT BULBS

Rauhia multiflora is probably the most regal exemplar of leaf succulence in a bulb. It is a rare amaryllid native to the eastern slopes of the Peruvian Andes at warm, middle elevations, and bears 2-3 thickly coriaceous, very broadly elliptic to obovate leaves with (1-)2 longitudinal grooves, or folds, running lengthwise. As these leaves can reach the proportions of a football in outline, they leave a strong impression upon the memory. The green tubular flowers are pendulous and rather attractive. Two further species, *R. staminosa* and *R. decora*, are even more scarce in cultivation, the latter with attractive silver speckling on the thick leaves.

Among the most versatile and enchanting of plants, the aloes are not without bulbous representatives, though all are quite rare in cultivation. One, *A. buettneri*, is the most widespread species of the whole genus and inhabits a large portion of mainly western tropical Africa. The remaining bulbous species are confined to Africa south of the equator in summer rainfall areas and have narrow, almost grass-like leaves, in contrast with the broad leaves of *A. buettneri*. All are succulent in their vegetative features and may remain in leaf throughout the year.

SUCCULENT OF THE MONTH: SUCCULENT BULBS by Dylan Hannon

No doubt familiar to many readers, *Bowiea*, with a rather curious geographic distribution, comprises three species: *B. volubilis*, from central and eastern South Africa (summer rainfall), *B. kilimanscharica* (Mt. Kilimanjaro area; very similar to the first but smaller in stature and with a fruit twice as long) and *B. garipeensis* from the Northwest Cape in South Africa (winter rainfall). Published by Ernst van Jaarsveld in 1983, the last is distinguished from the other two species by its glaucescent, merely trailing main stems, larger, whitish flowers with spreading, not reflexed tepals and gray, membranous bulb coats which do not exfoliate to expose the bulb. The vegetative production of these plants is restricted to moderately succulent inflorescences which twine or clamber their way along, producing elaborate, mostly sterile branches which are occasionally joined by a thin, linear leaf from the neck of the bulb, especially in seedlings. All of the bowieas grow best with the bulb positioned above the soil.

Members of the genus *Drimiopsis*, with five species from eastern South Africa (summer rainfall), are often met with in collections of succulent plants. *D. botryoides* and *D. kirkii*, both with attractively mottled, crisp-succulent leaves, are easy to grow and make good houseplants, tolerating neglect and low light conditions. They prefer to be on the pot-bound side, as do many other bulbs, and need little more than protection from winter cold and wet. Both species can be easily propagated by inserting torn-off leaves into moist soil. *D. maculata* is also in the succulent trade but has thin leaves, and is, along with the two mentioned before, quite happy with the clusters of green bulbs growing above the soil.

A relation to the last genus, as its name implies, *Drimia haworthioides* has made its way around in the succulent trade as a plant with thin, deciduous leaves but exposable clusters of thick leaf bases. Rather closely resembling *Haworthia* in flower, and in leaf if one imagines *H. maughanii* with the addition of thin leaf blades, this plant is an interesting intermediate bridging the bulbs with some of the leaf succulents. In cultivation it seems irregular in growing to suit any particular season but may be managed by giving protection from rain in winter, a dry hardening-off period after the leaves mature and moderate shade all year round.

Undeservedly shied away from because of their sometimes vigorous stoloniferous habit, *Manfreda* (including *Runyonia*) is a close ally of *Agave* and differs mainly by its usually deciduous, soft-fleshy leaves which are unarmed or have only soft, weak teeth. The flowers are borne atop often very tall stalks and closely resemble those of typical *Agave* species. *Manfreda* has in the past been included, not unjustifiably, as a subgenus of the latter. The genus ranges from Oklahoma and Missouri to Guatemala and is most diverse in central Mexico. Many of the species are outstanding in their possession of the ultimate in vegetative succulence: thickened, fusiform roots from a stout, herbaceous rootstock topped by a bulb which produces fleshy leaves. *M. brunnea* of the Chihuahuan Desert region is one of the more choice species, with a compact rosette of canaliculate, relatively short, thick and glaucous leaves with small red flecks throughout and a fairly short inflorescence of good-sized flowers which may be marron or greenish, even within the same population. It is one of the few non-stoloniferous species.

SUCCULENT OF THE MONTH

Only a very few of the 21 *Haemanthus* species are often seen in cultivation, which is unfortunate as some have very attractive leaves and make good additions to any plant collection. Most are deciduous and grow in the winter-rainfall region of South Africa, though *H. albiflos*, the most often seen in cultivation, is evergreen and ranges further east. *Haemanthus coccineus*, with leaves to about 40 x 14cm, would be an excellent ingredient in any garden designed to survive on natural rainfall in southern California. It is the classical "Blood Lily", with a hysteranthous (= flowering before the leaves emerge), paintbrush-like inflorescence that is bright red throughout. The name *Haemanthus* is often misapplied to *Scadoxus*, which ranges from summer-rainfall South Africa throughout tropical Africa to southern Arabia and contains the well-known *S. ("Haemanthus") multiflorus*, along with the subspecies most grown in southern California, *S. multiflorus* ssp. *katherinae*. *S. puniceus* and *S. membranaceus* are also seen occasionally, and all differ from *Haemanthus* proper in having distinctly petiolate, rather thin leaves which are often borne on a pseudo-stem. The name change occurred in 1972 but has not been widely followed in horticulture.

BULBS as COMPANION PLANTS

Any discussion of artificial plant groups necessarily includes marginal members, those which one person may call succulent, another only semi-succulent. Many bulbous plants fit this category, such as *Muscari* (grape hyacinths), *Eucomis* (pineapple lilies), even tulips and daffodils. The examples following have more in the way of personal charm and adaptability to a long and distinct dry season than they do to any claim of righteous succulence, and are offered as choices among the smaller species of possible companion bulbs for the grower of succulent plants.

Many of the smaller bulbs are temperate, Eurasian or North American plants which are better suited to gardens in cooler climates, and the few tropical species are generally very rare in cultivation. Of the latter, special mention must be made of the bulbous flora of Mexico's Sierra Occidental. Many of these species, best represented by the iris, amaryllis and onion families, are sympatric with cacti and other succulents. A good example is a dwarf *Sprekalia* (Aztec Lily) from Zopilote Canyon in the state of Guerrero, north of Acapulco, which shares the dramatic landscape with *Fouquieria*, *Neobuxbaumia* and a host of other exciting plants. In the same state, *Sessilanthera*, an elegant member of the iris family with yellow (and lemon-scented) or white nickel-size flowers, grows with *Ficus petiolaris* and *Bursera* spp.

Though technically cormous rather than bulbous, *Milla* and its close allies are concentrated in this region and often grow with burseras, cacti and other succulents in tropical deciduous forest zones. *Bessera elegans*, which decades ago made its rounds in the bulb trade, is arguably the most beautiful of the group, with delicate umbels of pendent cup-shaped flowers, each tepal (= petal and sepal when both are very similar) pure glistening white and crisply outlined and bisected in bright violet or cherry red. As if not enough, the anthers are near-black and the pollen is blue!

All of these species enjoy summers with temperatures hot by day and warm by night and dry, not too cool winters. They also enjoy rather generous feeding while actively growing.

From warm-temperate or subtropical parts of South America and the American Southwest, and especially northeastern Mexico, come *Habranthus* and *Zephyranthes* (rainlilies), excellent for use with summer-rainfall succulents, but again the majority of the species are as yet scarce in cultivation, at least in our area. Given the current strong tide of interest in cultivating bulbs both here and abroad, these plants will likely become much easier to obtain in the near future. Most pose no great challenge in their cultivation.

Finally we are left with the smaller bulbs of Mediterranean, or winter-rainfall climates, and these harbor by far the majority of dwarf bulbs and other geophytes. Most diverse are the South African members of the lily, iris and amaryllis families, with representation of these groups second best, though not nearly as exciting, in the Mediterranean. California is of course home to many bulbous and cormous plants but they are strangely much more popular abroad, especially in Britain, than they are in their home state. Chile harbors a good number of interesting bulbous plants but the majority are extremely rare, in cultivation and often in the wild. Only a handful of bulbous plants are native to Australia.

Among the more interesting of dwarf bulbous plants from South Africa's winter-rainfall region, both in foliage and flower, are *Massonia*, *Daubenyia* and *Whiteheadia*. The latter are monotypic and produce, as do several members of the first genus, two broad, nearly oval, semi-succulent leaves which lay flat on the ground and may be plain green (*Whiteheadia*), have faint longitudinal grooves (*Daubenyia*) or be raspy or pustulate and strongly suffused with maroon, as in *Massonia pustulata*. Given a totally dry summer rest in the shade, these plants do very well in small pots and bear equally interesting flowers. In cold-hardy *Daubenyia* there are both yellow- and red-flowered forms, while *Whiteheadia* resembles the pineapple lilies and *M. pustulata* bears a pincushion-like globe of whitish, very pleasantly fragrant and long-lasting flowers nestled between the leaves.

Obtaining greater favor of late are the lachenalias, with many species of fascinating variation in both flower and leaf. Leaf textures vary from smooth to warty to rasp-like and there may be vestiture of various description; leaf color includes all manner of mottling to red margins and at least one species (*L. namaquensis*) may have black leaves. The flowers are no less exciting in their variation and probably exhibit as great a color range as any genus of flowering plants. Many species have fragrant flowers and most are very easily cultivated.

For the collector who prefers foliage over flowers, the above Liliaceae and their allies (more recently "split-out" to form the Hyacinthaceae... stay tuned) and the amaryllids (below) would be the groups of choice, but one must include the Iris family for its spectacular floral contribution to the world of bulbs and corms. Most, if not all, of the South African members of this family are cormous rather than bulbous and so cannot have their rootstocks exposed above the soil. Example genera which have mostly dwarf or small species are *Babiana*, *Geissorhiza*, *Lapeirousia*, *Gladiolus*, *Spiloxene*, *Moraea*, *Galaxia* and *Ixia*. These and the many other smaller genera are most worthy of a place in the garden (or a small pot) for their exquisite, if short-lived flowers. With a modest assortment one can extend the period of bloom over two months or so, primarily in the early spring.

Oxalis is familiar to most of us as either a weedy pest, e.g. *O. corniculata*, an unwelcome but beautiful intruder (*O. pes-caprae* (syn. *O. cernua*)) or sometimes as a garden charmer (*O. purpurea*, *O. rubra*, etc.). This genus is a large one in South Africa and apparently very difficult botanically. Many different color forms exist, adding up to trouble for the taxonomist but a boon for the bulbophile. The leaf variation is just as interesting as are the flowers. Needless to say, most of these plants are not difficult to cultivate!

Lastly we arrive at the queen of bulb families (if not all monocots, if your author may take the license), the Amaryllidaceae. The majority of species are found in Africa south of the Sahara and in the New World tropics (see *Rauhia*, above) and there is an especially rich concentration of them in the winter rainfall area of South Africa. The following are represented in both the winter and summer rainfall regions of southern Africa: *Brunsvigia*, *Amaryllis*, *Nerine*, *Haemanthus* (see above) and *Cyrtanthus*. They are among the African amaryllids probably most familiar to many readers, and they contain some of the most showy and unusual plants in the family. Several brunsvigias put out large, extremely broad leaves which lay very flat on the ground; these are preceded by an inflorescence, often quite large, of pink or reddish flowers. Several of the *Nerine* species are dwarf clumping types with grass-like leaves and pink flowers with crisped-undulate tepals. Of the many species of *Cyrtanthus*, two are outstanding in their large (up to fist-sized) bulbs bearing distichous, twisted glaucous leaves and trumpet-shaped salmon-colored flowers which are strikingly tipped green. These are *C. obliquus* and *C. herrei*, the latter from Namibia and much easier to grow than the former, which grows in the Transvaal.

As a rule, most amaryllids are slow from seed to flower, 4-5 years for the faster ones and often much longer, and this accounts partially for their general scarcity in cultivation. The bulbs of most amaryllids, more so than other bulbs, are outfitted with a considerable set of fleshy, perennial roots and thus they resent disturbance at any time and should not be allowed to dry out completely during dormancy. Such disruptions generally do no real harm to the plants but flowering may be upset for several years.

The more obscure genera, such as *Gethyllis*, *Hessea*, *Boophane*, and *Strumaria*, are mainly restricted to the western Cape and hence do well in our climate. Except for *Boophane* they are small plants and all are suited to pots or a place in the rock garden or a raised bed prepared with well-drained soil. *Gethyllis* are known for their clumps of linear, spring-like leaves surrounded at the base by a queer 'collar' which is usually dark red and may be fringed at the margin, these features altogether giving a most bizarre impression. The flowers are hysteranthous with the ovary situated well below ground at anthesis, and the edible fruit, with its strong fruity fragrance, is highly sought after by both bushmen and schoolchildren (and presumably seed collectors). *Boophane* is best known for the one summer-growing species, *B. disticha*, but the other four species are winter-growers with large bulbs, sometimes growing above-ground, and twisted and glaucous or green and hairy-margined leaves. *Strumaria* and *Hessea*, which will probably be merged in the future, contain perhaps two dozen species of dwarf bulbs with small flowers and variable leaves, and are mainly of interest to the hopelessly addicted bulb collector.

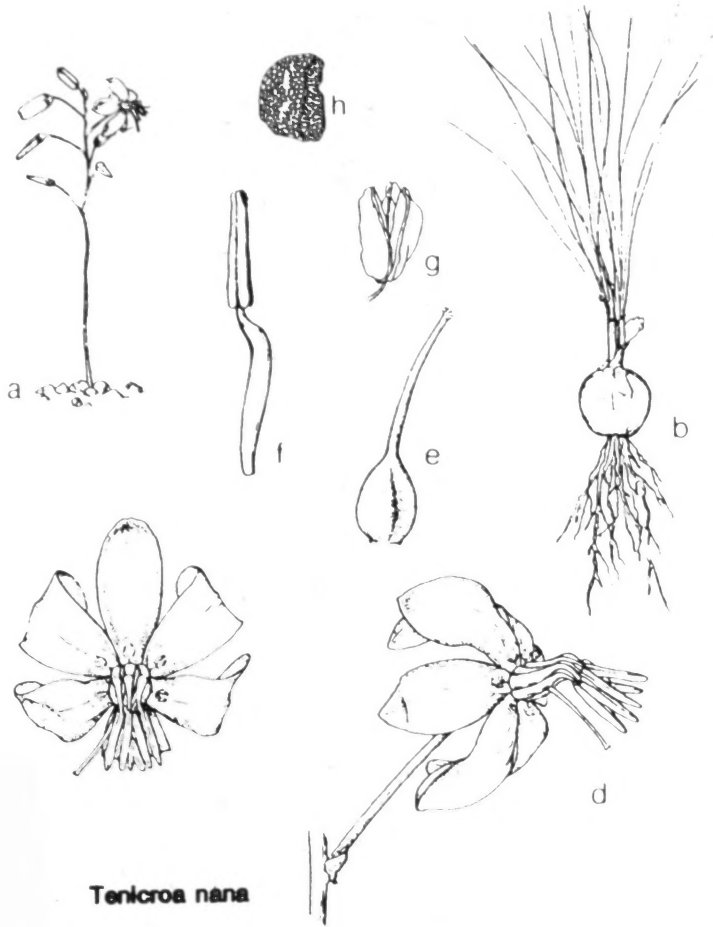
As any cactus and succulent collector knows, there is much more to the hobby than Prickly Pears, Old Man Cactus and the odd *Mammillaria* or Easter Cactus. Similarly for the bulb collector, there is a universe of wonder far beyond tulips or hyacinths or Easter Lilies, with delights to excite any imagination.

.....

Deadline for March issue of *Espinas y Flores* is February 28th. We are looking forward to Cactus of the Month: *Cochemia* (*Mammillaria*?) by Joe Clements and Winter growing of succulents by Joey Betzler. Please bring your plant for educational purposes, and to show on the Brag Table.

SUCCULENT OF THE MONTH: SUCCULENT BULBS

by DYLAN HANNON



University of California Publications in Botany

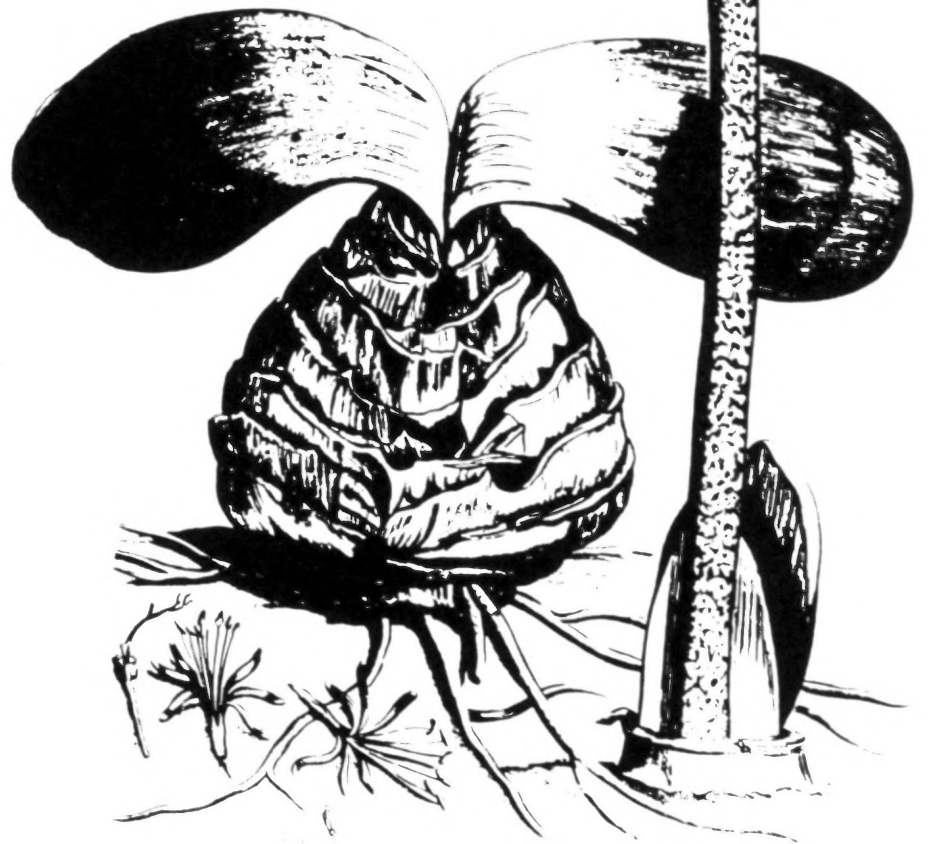
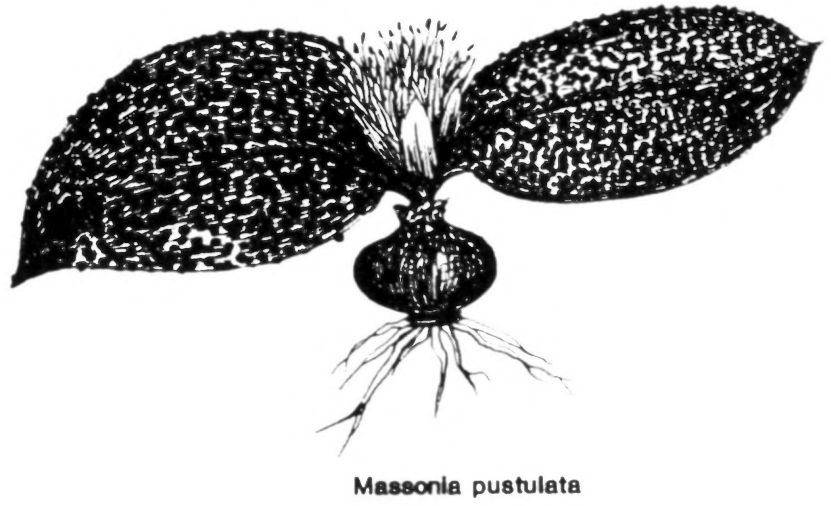
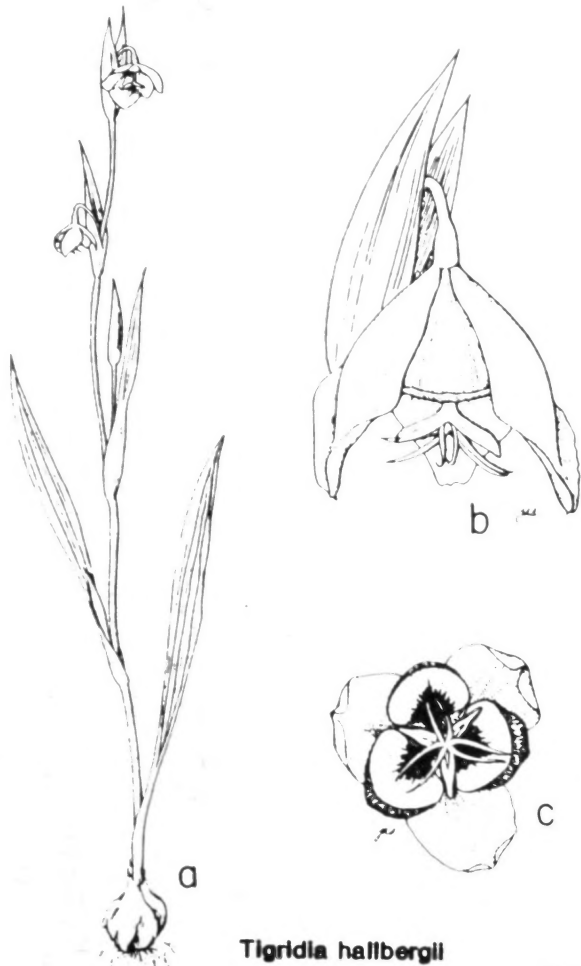
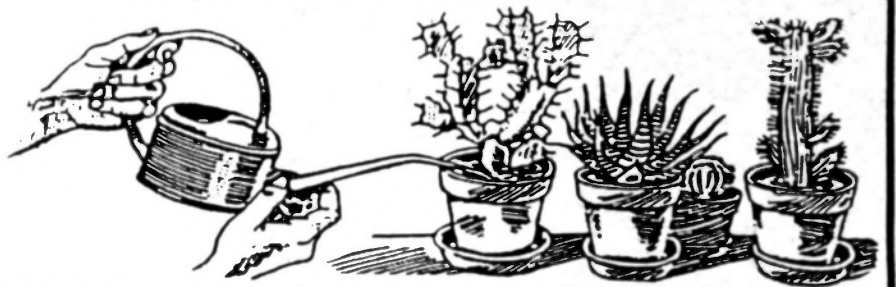


FIG. 1.
The type of *Haemanthus coccineus* L. in Commelin's *Horti Medici Amstelodamensis Rariorum* (1701: t. 64).

FROM ALL CORNERS
by Shirley Berry



The oft repeated phrase, "You can't argue with success" is certainly applicable to this hobby. Cultural directions vary as much as locations in which succulents are grown. But it is always interesting to learn how others achieve their results and perhaps apply this knowledge to our less successful efforts in growing.

Irving Reimann, in his article "Flowering Cacti and Other Succulents" in the (American) Cactus and Succulent Journal of May-June 1959, advises not to change your growing methods if they are successful, no matter how differently they are from any other.

Mr. Reimann, in following the University of California's famous publication for growing container plants, used two basic ingredients: sand and peat moss. A series of chemical fertilizers are recommended as well.

The soil mixes vary from 100% sand to 100% peat. More than 300 pages are devoted to the discussion of U.C. soil mixes in the publication, "The U.C. System of Producing Healthy Container Grown Plants", from which Mr. Reimann derived his formula.

In his half peat half sand mix, Mr. Reimann often adds shredded fir bark, charcoal, vermiculite, and cottonseed meal (about one tablespoon to a 4" pot). Depending on the plants needs, powdered oyster shell, rock phosphate, bonemeal, crushed granite, and coarse gravel. He prefers a low nitrogen fertilizer, and uses them often during the growing season.

In speaking of soils he reminds us it is mainly an anchoring medium. Elements necessary for plant growth must be added. For succulent plants especially, air is needed at the roots. The U.C. system is based on this concept, and their booklet points out that plants in nature grow where they have to, and very often will do better in soil different from their natural environment.

In summing up I would say that you can achieve successful growth with a wide variety of formulas and that there is no "right" one.

On another topic, those of you who have greenhouses and find yourselves bothered by the sciarid, or peat fly, this is a tip that may prove helpful. In the British Cactus & Succulent Journal of June 1988, a reader mentioned that a saucer of vinegar in the greenhouse seems to provide a fatal attraction for these pests. They head straight for the liquid and drown. If you have discovered an unusual treatment for any of the common scourges, why not let the editor know so we can share in the benefit?

MATE WANTED: Voluptuous 15 year old *Pachypodium decaryi* seeking safe reproductive sex. Please call Alan Weiss 471-6948.

*"Who taught the raven
in a drought
to throw pebbles
into a hollow tree,
where she espied water,
that the water might rise
so as she could come to it?"*

Francis Bacon (1561-1626)

WISE AND OTHERWISE

by Michael Buckner



PAGE 14

"How many species of organisms are there on earth? We don't know, not even to the nearest order of magnitude. The numbers could be close to 10 million or as high as 100 million. Large numbers of new species continue to turn up every year. And of those already discovered, over 99 percent are known only by a scientific name, a handful of specimens in a museum, a few scraps of description in scientific journals. It is a myth that scientists break out champagne when a new species is discovered. Our museums are glutted with new species. We don't have time to describe more than a small fraction of those pouring in each year."

from NATURAL HISTORY Magazine, Vol.102 #1, Jan 1993 "A Special Fondness for Beetles" by Stephen Jay Gould.

"Can you imagine growing up and finding the first rabbit you encounter is a Volkswagen?"
Charles Varon

*"I expect to pass through this world but once, any good thing
therefore that I can do, or any kindness that I can show
to any fellow creature, let me do it now;
Let me not defer or neglect it, for I shall not pass this way again."*

Stephen Grelley (1777-1855)

"USE IT UP, WEAR IT OUT, MAKE IT DO, OR DO WITHOUT."
New England Proverb

"(The naturalist) looks upon every species of animal and plant now living as the individual letters which go to make up one of the volumes of our earth's history; and, as a few lost letters may make a sentence unintelligible, so the extinction of the numerous forms of life which the progress of cultivation invariably entails will necessarily render obscure this invaluable record of the past. It is, therefore, an important object (to preserve them).... If this is not done, future ages will certainly look back upon us as a people so immersed in the pursuit of wealth as to be blind to higher considerations."

Alfred Russel Wallace JOURNAL of the ROYAL GEOGRAPHICAL SOCIETY (1863)

WISE AND

Then I want to sit and listen and have someone talk, tell me things—their life histories—books they have read, things they have done—new worlds! Not to say anything—to listen and listen and be taught. —Anne Morrow Lindbergh

.....



"Rachel Carson's concern about insecticides date to 1945 and a potent poison known as DDT. The popular term for such chemicals was "pesticides," but Carson discerned a covert anthropocentrism is the word. A creature was a "pest" only from the human perspective. In nature it has a legitimate role as part of what ecologist knew as the web of life. Carson preferred to think about DDT and the like not as pesticides but as biocides--killers of life. And she knew that poisons seldom stopped working at a convenient or expected point in the food chain. Creatures that ate the poisoned insects sickened and died. Other forms of life became unintended victims of indiscriminate sprayings. Ultimately the insecticides infected the entire ecosystem. A "silent spring" where no birds sang was a distinct possibility. And so, Carson reasoned, was a sick human society, poisoned as an ironic side-effect of the drive to conquer and dominate nature. The realization that insecticides menaced human health made SILENT SPRING headline news."

from THE RIGHTS OF NATURE by Roderick Frazier Nash

THE OBJECTION TO BEING STEPPED ON

OTHERWISE

At the end of the row
I stepped on the toe
Of an unemployed hoe.
It rose in offense
And struck me a blow
In the seat of my sense.
It wasn't to blame
But I called it a name.
And I must say it dealt
Me a blow that I felt
Like malice prepense.
You may call me a fool,
But was there a rule
The weapon should be
Turned into a tool?
And what do we see?
The first tool I step on
Turned into a weapon.

By Robert Frost



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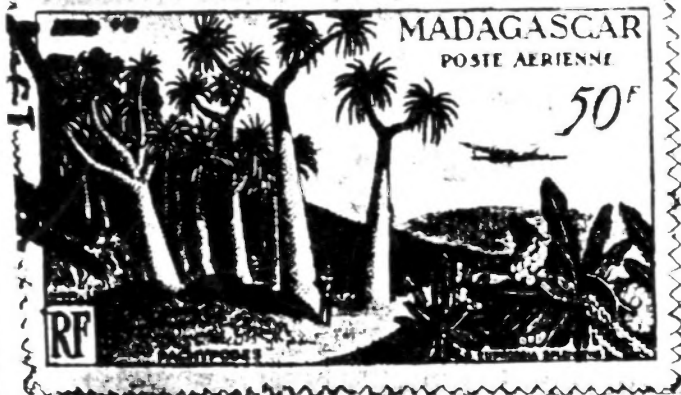
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* See page two for explanation.

VISITORS WELCOME

San Diego Cactus and Succulent Society, Inc.
P.O. Box 33181
Hillcrest Station 102
San Diego, CA 92163-3181



Editors - Joyce & Michael Buckner
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The San Diego Cactus and Succulent Society, Incorporated is open to all persons interested in growing cacti or other succulent and exotic plants. Meetings are held the second Saturday of each month at 1:30 P.M. in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held at 12:00 P.M. prior to general meetings. Annual dues are \$10 per single member per year, and \$5 for each additional member of same household. Single copies of Espinas y Flores are \$1 per copy sent within U.S.A. Affiliated with the Cactus and Succulent Society of America, Incorporated. Fax available - please call editor for number!

A NON-PROFIT, TAX-EXEMPT ORGANIZATION

CONVENTION NEWS

The organization of the 1993 CSSA 25th Biennial Convention in San Francisco is well underway. Mark your calendars now for July 18-24! The affiliate societies of northern California are working hard to make this a **very special event**.

The convention will be held at San Francisco State University, beginning on Sunday, July 18. The festivities will begin with check-in and a welcoming party. Programs will run from Monday through Friday, and Dr. Seymour Linden, Program Chairman, has selected such outstanding speakers as John Lavranos, Carlos Ostolaza, Seiichi Osada, Ted Green, Colin Walker, H. Ihl-efeldt and Miguel Cházaro. They will speak in a large comfortable theater with a fine audio system, a 22-foot screen, cushioned seats and a sloping floor that will allow an unobstructed view.

Convention housing provides brand-new two-bedroom apartments with two beds in each bedroom, a kitchen with microwave, a dining area, a living room and a quality bathroom. Meals will be provided by Marriot and are included in your room-and-board fees, with the exception of the optional farewell banquet.

The Convention will feature two exciting tours to choose from!

Tour 1: First to Walnut Creek to visit the **Ruth Bancroft Gardens**, internationally recognized as one of the finest private succulent gardens in North America, then tour the famous **University of California Botanical Gardens** in Berkeley.

Tour 2: Over **Golden Gate Bridge** to Marin County to see coastal dudleyas in habitat, then off to Bolinas to enjoy a rare opportunity: Dr. Herman Schwartz (of *Euphorbia Journal* fame) has generously agreed to open up his greenhouses for a personal tour of the prestigious **Euphorbia Reference Collection**.

Our convention will also have two banquets, a rare plant auction, a round-robin meeting and informal evening lectures. And, not forgetting one of the prime attractions of these conventions, we have assembled a knockout group of plant

and book vendors to satisfy the most discerning connoisseur.

You can look forward to an incredible week of fun in the spectacular setting of San Francisco. Take your own private excursions to Fisherman's Wharf, Chinatown, and Golden Gate Park, Carmel and Big Sur. Or go north of San Francisco to see magnificent redwoods and the wine country of Napa and Sonoma Valleys. There are so many things to do! By the way, public transit is great here.

So how much does all this cost? A lot less than you might think, for we have organized this event to keep it affordable. Here are the basic fees:

Registration	\$ 90
(non-CSSA attendees, \$125)	
Room and board (7/18-23)	
Double occupancy	190
Single occupancy	274
Optional parking permit	12
Optional field trip	25
Final banquet (7/23)	25

Yes, you are reading it right! A week in San Francisco at our 25th Biennial Convention can be as little as \$305 per person, and that includes registration, a week's meals and a nice new room (many of which have a spectacular view).

Haven't you always wanted to visit San Francisco? Come enjoy a rich week of first-class lectures in comfortable surroundings. We cordially invite you to come join your friends (and make new ones) at the 1993 CSSA 25th Biennial Convention! Are you interested? Registration forms will be included in your January-February CSSA Journal.

Best regards,

Richard Bernard
CSSA Convention Director
780 Cole Street
San Francisco, CA 94117
Phone: (415) 665-8101

P.S. On yes, bring a sweater—the average summertime high is 67 degrees Fahrenheit!

CACTUS AND SUCCULENT SOCIETY OF AMERICA

an international organization dedicated to education, protection and preservation of some of nature's most unique creations.

JOIN NOW! Your membership will include:

- a subscription to the **CACTUS AND SUCCULENT JOURNAL** and the **Cactus and Succulent Newsletter**.
- the opportunity to obtain rare seeds at nominal cost.
- reduced fees for Cactus Computer Group services and diskettes
- meeting many other cactophiles, who share their enthusiasm and interest, at meetings, conventions, conferences, and shows.

To join the Cactus and Succulent Society of America, fill in the required information below and send it with your check or money order payable to CSSA. The CSSA will accept personal or travelers checks in foreign currency for the following countries: Australia, Belgium, Canada, Denmark, England, France, Germany, Italy, Netherland, Norway, Switzerland, Sweden, Ireland, Hong Kong, Japan and New Zealand. All other countries must be in US Funds. Visa or Mastercard also accepted. 5% handling charge added to VISA/Mastercard orders.

Mindy Fusaro, CSSA, P.O. Box 35034, Des Moines, IA 50315-0301 U.S.A.

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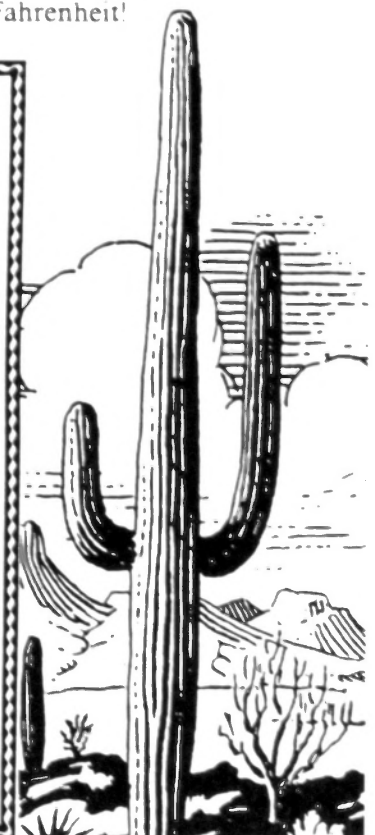
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Please use for new membership only!



CONVENTION PROGRAM

* Pacific Rim vs. Africa *

(tentative)

Sunday, July 18

- 2:30 - 6:00pm Registration, book and plant sales.
6:30 - 9:00 * Welcome to San Francisco Party*.
8:00 - ? Informal slide shows. See bulletin board for schedule. Dr. David Tufenkian, Chairperson.

Monday, July 19

- 8:00 - 5:00 Late registration, book and plant sales.
1:00 - 1:45 Professor Ihlenfeldt, Professor of Botany, Hamburg University, "Pedalaceae, a little known African plant family with some interesting succulents."
2:00 - 2:45 Sean Hogan, University of California Botanical Gardens, "From penguins to monkey puzzles and the cacti in between—the cacti of Patagonia".
3:00 - 3:45 Ted Green, horticulturist, Kaaawa, Hawaii, "The world of hoyas and dischidias".
4:00 - 4:45 Seiichi Osada, horticulturist and nurseryman, Japan, "Cacti and succulents in nature".
6:45 - ? Opening Banquet - Lecture by John Lavranos, renowned plant explorer, "Thirty years of succulent discoveries in Kenya."
post banquet Dr. David Tufenkian, Chairperson, informal, non-scheduled slide lectures — see bulletin board.

Tuesday, July 20

- 8:00 - 5:00 Late registration, book and plant sales.
9:00 - 9:45 Miguel Chazaro, botanist, University of Guadalajara, "Crassulaceae and some lesser known succulents of Mexico."
10:00 - 10:45 Dr. Burl Mostul, PhD, psychologist and horticulturist, Milwaukie, Oregon, "Some new caudiciforms of the Pacific Rim."
11:00 - 11:45 Gary Lyons, succulent horticulturist, Chairperson, Conservation Panel, "Don't dig up that cactus.....or should I? a discussion of bioethics, collecting and the law".
1:30 - 2:15 Dr. Colin Walker, Dept of Botany, Open University, England, "Moroccan memories".
2:30 - 3:15 Chuck Hanson, owner of Arid Lands Greenhouses, "Commercial nurseries as succulent life-savers."
3:30 - 4:15 Dr. Carlos Ostolaza, MD, botanist, Lima, Peru, "The geographic distribution of cacti in Peru".
7:00 - ? Rare Plant Auction, Steve Hammer, Chief Procurer and Dr. Gerald Barad, Chief Auctioneer.

Wednesday, July 21 - Free time and BUS TOURS

- 8:00 - 5:00 Book and plant sales.
8:30 - 3:00 Bus Tours: Choice of 1 only. Lunch will be provided on each tour. Time of return is variable.

#1 Ruth Bancroft Gardens, Walnut Creek and the University of California Botanical Gardens, Berkeley.

#2 Coastal dudleyas, Dr. Herman Schwartz and the Euphorbia Reference Collection, Bolinas.

- 7:00 - 8:30 Affiliate Meeting, presentation by next convention hosts, Mary Jo Gusset, Vice President CSSA, Chairperson.
8:45 - ? Informal slide shows. See bulletin board and Dr. David Tufenkian.

Thursday, July 22

- 8:00 - 5:00 Book and plant sales.
9:00 - 9:45 Prof. Ihlenfeldt, "Mesembryanthemaceae — masters of adaptation".
10:00 - 10:45 John Lavranos, "Explorations in northern Somalia and Djibouti".
11:00 - 11:45 Hans Britsch, "Western Cactus Growers and the Britsch family".
1:30 - 2:15 Dr. Gerald Barad, MD, President of the CSSA, "Wild flowers and succulents of Namaqualand".
2:30 - 3:15 Dr. David Tufenkian, MD, hobbyist, "Collectors and their collections".
3:30 - 4:15 Sam Williams, nurseryman and hobbyist, Carmichael, CA, "Culture and Propagation Panel, "Propagation or how to increase your collection and have fun at no cost".
7:00 - 8:00 Meeting of the newsletter editors, chaired by Mac Clark, Tennessee, member of the CSSA Board of Directors.
7:00 - 8:00 Informal and non-scheduled slide programs, see bulletin board and Dr. David Tufenkian.

Friday, July 23

- 8:00 - 5:00 Book and plant sales.
9:00 - 9:45 Miguel Chazaro, University of Guadalajara, "Some interesting cacti and agaves of Mexico".
10:00 - 10:45 David Naylor, hobbyist from Toronto, "Cold-hardy succulents in the Great White North".
11:00 - 11:45 Dr. Colin Walker, "Asclepiads through the ages".
1:30 - 2:15 To be determined.
2:30 - 3:15 Dr. Carlos Ostolaza, Lima, Peru, "Cacti and succulents in art".
3:30 - 4:15 Seiichi Osada, "Cactus and succulent collections in Japan".
7:00 - ? Farewell Banquet.