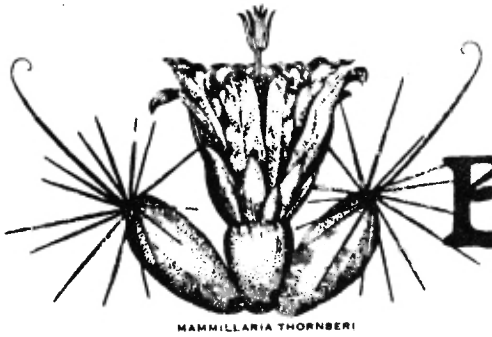

Espinas y Flores

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

Vol. XIV, No. 4. April, 1979

April Meeting

Saturday, April 14th, 1979
1:30 pm
Casa del Prado, Room 101, Balboa Park

Those Were the Days ...

by Warren Buckner

The April program will feature an interesting slide presentation by Warren Buckner, Immediate Past President of the SDCSS. Warren's program will review past activities and events of our Society, including our annual picnic, exhibits at the Fair, trips to past CSSA conventions, and portraits of some of our Life Members.

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CACTUS-OF-THE-MONTH

Arthrocereus (=Pygmaeocereus)

Dr. R. E. Monroe

The genus Pygmaeocereus (pigmy or dwarf cereus) has been known only since about 1960 and was originally proposed by Johnson and Backeberg for a group of very small ceroid cacti found growing along the coastal regions of southern Peru. Shortly afterward, Krainz (1967) transferred one of the species (P. densiaculeatus) to Arthrocereus (jointed cereus) and this was followed by Buxbaum (1969) who also transferred P. bylesianus and P. rowleyanus to Arthrocereus. Therefore, at present, it appears that the novo comb. stands and that all species formerly in Pygmaeocereus are now proper to Arthrocereus.

These cacti grow at no great altitude on the canyon walls that lead downward to the Pacific Ocean, and are somewhat restricted to small populations.

The plants are very small, cylindric cerei which offset quite freely from the base to form small clumps. The ribs of the plants range from 12-18 and consist of more or less oblong arioles on rounded tubercles. The spines are numerous, radiating and quite short and are grey, black, red or pure white in color.

Although these cacti seldom exceed 10 cm in height, the flowers are large and about 6 cm long and 6 cm wide with a narrow, long tube. The flowers are pure white, nocturnal and last but a single evening.

Typical species observed in collections are A. akersii (probably a variety of A. bylesianus) A. bylesianus itself, A. rowleyanus and A. densiaculeatus (this plant has dense, white, pectinate spines which completely cover the plant body). There are about four other species known (A. campos-portoi, A. mello-barretoi, A. microsphaericus and A. rondonianus) and several plants with field-collection numbers that await description.

Growing these minature plants can be painful. They appear to like a bright location, but under filtered sun; about 73% Saran® shade cloth appears to suffice. They appear to grow best from August to October (San Diego area) and are difficult to root from offsets (A. densiaculeatus is best grafted under any circumstance). Although they do require considerable water, they will rot easily should they not be potted in extremely porous soil (a heavy gravel mixture is excellent).

They are very tolerant to most insecticide sprays, and the usual pests are easily controlled as mentioned previously.

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Buxbaum 1969. Kak. und. and. Sukk. 20:97.

Krainz 1967. Stad. Sukk. Zurich Kat. 36.

(Also please see: Backeberg, C. 1977. Cactus Lexicon. Blanford Press, England; pp. 428).

SPECIAL MAY PROGRAM: Brian and Sally Lamb

The San Diego and Palomar cactus and succulent societies will present a very special program by Brian and Sally Lamb on Friday evening, May 4th, at 7:30 pm in the auditorium of the San Diego Natural History Museum (directly across Village Place from Casa del Prado).

Brian and Edgar Lamb are directors of the Exotic Collection, a large private botanical garden containing over 9,000 species of cacti and other succulent plants, in Worthing, Sussex, England. In addition, the Lambs have co-authored the *Pocket Encyclopedia of Cacti and Succulents in Color*, *Colorful Cacti of the American Deserts*, *Popular Exotic Cacti in Color*, and the five-volume *Illustrated Reference of Cacti and Succulents*, as well as publishing the Exotic Collection's *Monthly Notes*, with photographic reference plates.

Brian and Sally's program will consist of a slide presentation and talk on cacti and succulents from the Exotic Collection and succulents from the Canary Islands. This program promises to be a rare treat for succulent enthusiasts and one you won't want to miss.

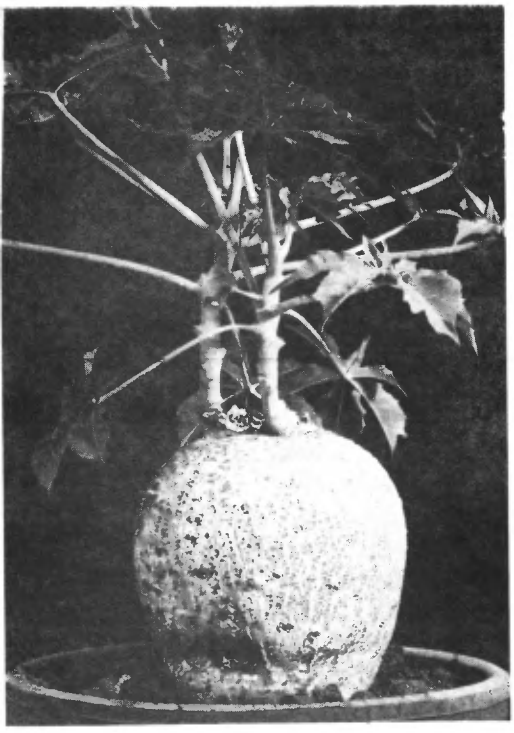
DAY IN THE WILDWOOD

The San Diego Natural History Museum will hold its 4th annual Day in the Wildwood — an outdoor adventure and fund-raising event — on Saturday April 28th and Sunday April 29th from 9:30 am to 3:30 pm at the Bandy Canyon Ranch of Mrs. Henry G. Fenton, located in San Pasqual Valley.

This picturesque 500-acre private estate lies on the Santa Maria Creek, a tributary of the San Dieguito River, west of Lake Hodges and features cactus gardens, winding, pepper-tree bordered paths, an adobe-brick main house and wild, uncultivated areas.

Events will include: garden tours, historical talks, guided bird walks, guided tours for the blind, a self-guided wilderness walk, gourmet tables, and nature stations on the following topics — Botany, Birds and Mammals, Entomology, Mineralogy, San Diego Shells (Fossil and Recent), and Conservation and Ecology.

Donations are $10 for adults (over 12), $5 for children (5-12), children under 5 are free. Catered lunches are offered at $5 for adults and $2.50 for all children. Round-trip bus transportation will be available from Balboa Park and La Jolla Village Inn for an additional $4 per person. For more information or reservations, please call the San Diego Natural History Museum (232-3821) and ask for the Wildwood Office.



Jatropha cathartica

Succulent-of-the-Month

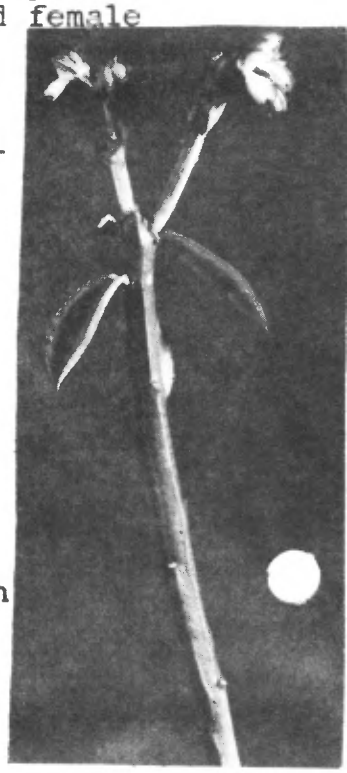
Jatropha, Pedilanthus, Monadenium, and Synadenium

by Rick Latimer

The Euphorbiaceae constitutes a large family of flowering plants; including herbs, shrubs, and trees of the most varied aspect and is divided into more than 250 genera and 6,000 species. The family has made its way to all parts of the world, save only to the arctic and antarctic regions and to a few alpine heights. Most species are not succulent, but mant are. The most famous genus is Euphorbia, of course, but there are a few other genera with succulent members.

The genus Jatropha is one of the more primitive members of this family. Its flowers still have petals (five and scarlet). Seed capsules are mostly 3 chambered. There are about 150 species of which about 100 are American and about 50 African. A subgroup Cnidoscolus contains species whose leaves have stinging hairs. When contact breaks off a hair, the needle-like tip injects formic acid into the wound (Mala-mujer). I doubt any of these are commonly grown. A much more desirable plant that is often seen in nurseries is J. cathartica(berlandieri), native to the Rio Grande plains. This plant does not tolerate winter watering. The cover of the Nov.-Dec. 1976 CSSA Journal has a drawing of a J. podigrica by our own Tony D'Attilio. J. plantifolia has a red sap. The genus name is Greek for physician-food. I doubt that many doctors eat them, since they are poisonous.

As we progress through the family, the petals are gradually reduced to scales and even disappear completely when we get to the genus Euphorbia. What has happened is that we originally had a flower, such as that of an orange tree, with petals, stamens, and a pistil. Then as in Jatropha, we have petaled flowers that are of separate sexes. Finally, to be economical, we reunite the male and female flowers(sometimes even with minute petals) into a pseudo-flower called a cyathium with pseudopetals that are more properly called bracts. Early botanists (and later amateurs like myself) like Linneaus believed what we now call the cyathium to be a single "perfect" flower. This theory of the origin of the cyathium was outlined by Dr. Röper of Göttingen in 1824.



Monadenium coccineum

Normally the upper part of the cyathium is divided into a series of lobes, alternating with another series of glands(nectaries). These glands secrete honey to attract insects for pollination. Incidentally, the Greek word for gland is aden-. We run into this root word in several succulent genera. Adenia(Passifloraceae) also has floral glands. However Adenium(Apocynaceae) has glands on each leaf axil. The lobes on cyathia may vary in number from 4 to 8 and the glands from 2 to 8 as in Euphorbia or become fused into one single ring gland as in

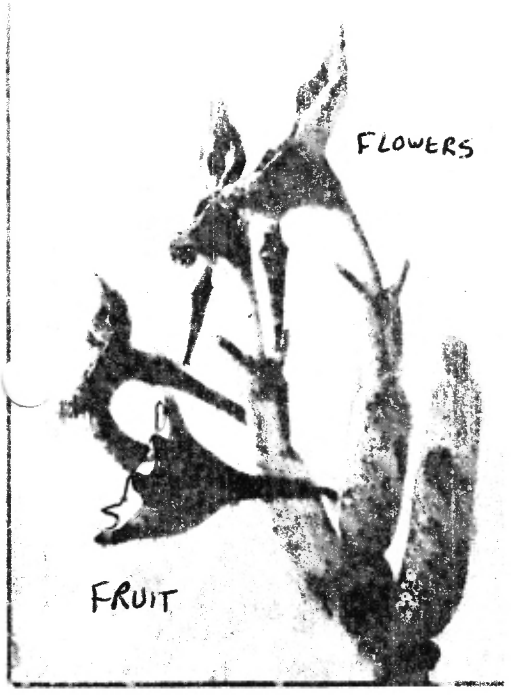
4 or yellow

the closely related Monadenium(one gland) and Synadenium(united gland).

Synadeniums are native to Eastern Africa. Although I do not consider the commonest one grown to be a succulent-S. grantii-its stems and leaves do have an appealing reddish color. The lathhouse in Balboa Park has several tall trees. Plants are frost tender. This genus overlaps with Euphorbia.

Monadeniums have unusually shaped cyathia, in that, they are zygomorphic-they open at the side, not the top. Plants are native to East and South Africa. Most species are unknown to me being either recent discoveries or recent introductions to this country like M.-stellatum, M. lugardae, or M. stapelioides. However, M. coccineum is an old favorite, with its bright red flowers.

There seem to be two opinions on the meaning of Pedilanthus. Either it means "slipper-flower" or it means "slipper-bird". Species are native to California, Mexico, and the West Indies. P. tithymaloides, also known as the "Devil's Backbone", is an interesting plant, especially the variegated leaved variety. P. bracteatus has yellow flowers instead of the usual red, and yellowish sap. P. macrocarpus from Baja, is often seen with crested branches.



Pedilanthus macrocarpus

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Humphrey, Robert R., The Boojum and Its Home, p. 166-169.

Jacobsen, Hermann, A Handbook of Succulent Plants, II:636-7, 680-93, 723-4, 883-5.

Phillips, E. Percy, The Genera of South African Flowering Plants, p. 455, 465, 468-9, 518, 587.

Radwin, George E., "Jatropha", CSSA Journal, 48: 253, 255.

White, Alain, R. Allen Dyer, Boyd L. Sloan, The Succulent Euphorbieae.

BARTER BOX

Bob Budz (282-2962) is moving and attempting to sell the remainder of his succulent collection which includes some good-sized specimens of *Bombax ellipticum*, *Pachypodium lamerei*, *Beaucarnea recurvata*, *Pachycereus pringlei*, *Cleistocactus hylacanthus*, *Cephalocleistocactus chrysocephalus*, *Cephalocereus palmeri*, and *Ariocarpus*.

Pests of Succulent Plants

Part II. Snails and Slugs.

Dr. R. E. Monroe

Of all the known pests of succulent plants, none can inflict more obvious, immediate damage than certain terrestrial snails or slugs. In Southern California during the winter and spring months, these animals are especially common particularly during periods of rain; however, nearly any month of the year one can find severe plant damage due to these molluscs.

Systematics — The common large land snail so often found in San Diego gardens is Helix aspersa (Pulmonata:Helicidae) and was mistakenly introduced as H. pomatia (a common European snail relished as escargot). Unfortunately, H. aspersa lacks edible qualities, and it was soon released and become a widespread pest.

The common slug (Gastropoda:Pulmonata) is a resident (Deroceras sp.), but made much more common by man's hand—via movement of potted plants, etc.

Plant damage — Snails and slugs will eat or attempt to eat nearly any succulent plant. However, their favorite appears to be the cacti. In their mouth is a highly developed feeding organ, the radula, which acts as a grater, rasp, brush, cutter, grasper or conveyor. The teeth vary in number. Thus, armed with such a device they can be found eating flower buds, flowers, fruit or plant epidermis per se. Returning night after night they continue feeding until the plant is completely destroyed or until they find another food source. Plants fed upon sustain deep scars for years, sometimes forever.

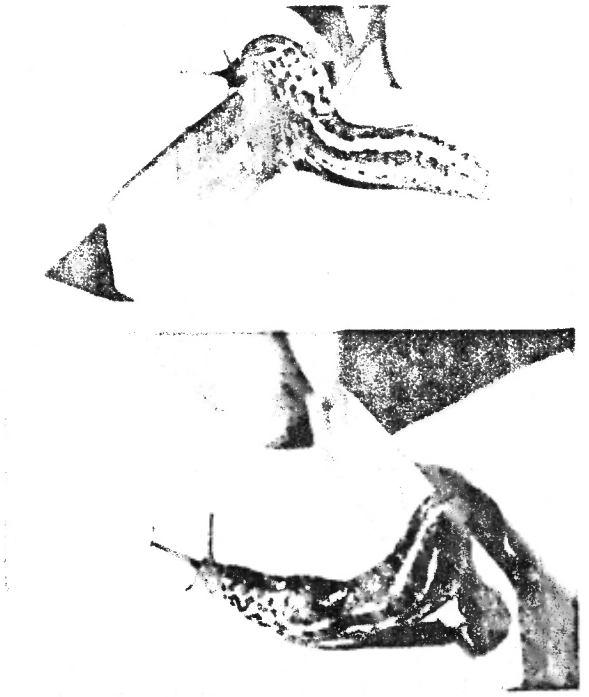
Land snails are gastropods that have part of the mantle cavity modified as a lung for air-breathing. They use their radulas to rasp off fragments of plants. This pair soon reduced to a few shreds the piece of lettuce on which they are shown. (Photo of living animals. Pacific Grove, California)

Biology — Although these animals are terrestrial, they do require moisture or high humidity. Thus they are usually found beneath damp pots, boards, rocks, ice plant beddings, etc. during the day and forage at night when the air is more damp. After mating, the animals lay several gelatenous-like eggs in locations that are apt to remain dark and damp. After hatching the young snails or slugs soon begin to forage and appear to use a slime trail to find their way to and from a food source. Of course, the slime trail is used throughout their lives which is variable, but averages 5-6 years for H. aspersa (Barnes, 1974).

Control — Chemicals that are used to control snails or slugs are called molluscicides, and it is fortunate that one is extremely effective--metaldehyde.

This simple chemical is usually sold incorporated into a bran-like bait which the animals relish, but it may also be distributed as a foliar spray. A new experimental chemical that lacks EPA registration (Formetonate or Carzol®) shows considerable promise as a future molluscicide.

Too, armed with a flashlight and a knife, one can "hand kill" the pests at night, a practice worth considering if dogs and cats are likely to eat much of the bait.



Slugs are land gastropods that have lost the external shell, having only a thin plate imbedded in the mantle. The slime they secrete and upon which they glide is lubricating and protective, as is demonstrated by these pictures of a slug passing unharmed over the sharp edge of a razor.

References Cited

Barnes, R. D. 1974. Invertebrate zoology. W. B. Saunders Co., Philadelphia. pp. 336-365.

GREEN THUMB SHOWS

The San Diego Wild Animal Park will host three Green Thumb Shows this month: April 14-15 North County Rose Society; April 28-29 Escondido Garden Club; May 5-6 San Diego Epiphyllum Society.

QUOTES and Notes ____ by JBM

"ALL'S WELL THAT ENDS WELL"

Name changing of cactus plants is a rather common activity among those experts who are now doing the detailed study and taxonomic revisions that new knowledge requires. The final form that the new name takes is left up to the grammarians who have rather strict rules about such things.

Now this may not be something you always wanted to know and were afraid to ask, but here it is — and, believe me, it need never be mentioned again.

> "The majority of scientific names are formed from Greek or Latin descriptive nouns or adjectives... Names of Greek derivation are always Latinized in spelling and accent, while Latin names retain their original form. In binomial names, by which species are definitely identified, the name of the genus is a noun in the nominative singular case, while the specific name, which begins with a lower case letter, is usually used as an adjective which must agree with the noun in gender and case. ....trinomials take the same form as that of the species.
>
> "When the name of a genus is changed to one having a different gender, the endings of the specific names, if used as adjectives, are adjusted to conform to the new generic name. Thus, Cereus giganteus becomes Carnegiea Gigantea, and Echinocactus capricornis becomes Astrophytum capricorne."

Glossary of Succulent Plant Terms, by
W. Taylor Marshall and R. S. Woods,
Cactus and Succulent Society of America, 1938
Reprinted by Abbey Garden Press, 1945

This book is one of the best of its kind. It defines technical terms, gives the origin and meaning of specific and generic names and the pronunciation. Many Illustrations. Out-of-print and hard to find but in our libraries. Another reprint would be welcome.

P. S. In Lamb's new volume five, pages 1312-1313 and color plates CCCXLV & CCCXLVI, Buiningia brevicylindrica and B. purpurea have a "us" ending on the specific epithets — errors to be corrected.

pH and Salinity of Potted Soils After Treatment with Soil Amendments—A Summary

Dr. R. E. Monroe

Recent tests on Green-O-Matic®, a relatively new water additive to adjust pH, wash out salts and to improve nutrient uptake by plants, demonstrated a very acid pH 3.5 when mixed with tap water, and members of the San Diego Cactus and Succulent Society were warned against its use (Monroe, 1978). More detailed studies involving Green-O-Matic, Stern's Miracid® and Stern's Miracle Gro® plus Green-O-Matic have been completed (Monroe, 1979) and the results are summarized here for immediate information.

Sixty-four two inch plastic pots were filled with super soil-builders sand (1:1) and these pots watered twice weekly with or without the scheduled amendment (as per the manufacturer's recommendations). The quantity of water used was sufficient to allow 12 ml to pass through the soil mixture in all cases. The pH and salinity of the soil mixtures were tested every two weeks by recommended procedures (Richards, 1954). The tests lasted for four months.

Table I. The pH and salinity (electrical conductivity) of potted soils after treatment with claimed useful acid soil-forming amendments over a period of four months.

Combination tested	pH with tap water only	pH after week			Salinity after week		
		2	8	16	2	8	16
Tap water	7.8						
Soil alone	7.5						
Control (water only)	-	7.8	8.0	8.1	1300	1340	1250
Green-O-Matic	3.5	8.0	7.3	7.2	1300	1330	1390
Stern's Miracid	7.4	8.0	7.6	7.5	1300	1650	1575
Stern's Miracle-Gro plus Green-O-Matic	5.5	7.9	7.0	6.8	1300	1750	1537

When Green-O-Matic was mixed with tap water, a very acidic pH 3.5 was produced (potentially dangerous to delicate plants). However, only pH 5.5 was found when Green-O-Matic was admixed with Stern's Miracle-Gro and reflects on the high buffering capacity of the latter. It must be strongly noted that despite the manufacturer's claims, Green-O-Matic did not lower pH nor reduce salts over the 16 week test period (Table I). At test's end the pH was only slightly lower than water alone and the salinity tests showed that Green-O-Matic treated soils actually increased in salinity over suitable controls (10% increase).

Miracid-treated soils also did not decrease sufficiently in pH to back the claims of the manufacturer (after 16 weeks such soils were only slightly less alkaline than the water controls). More important, however, was the fact that salinity increased markedly (21% higher than the controls).

When Miracle-Gro was admixed with Green-O-Matic, an acid pH was attained on the tenth week (pH 6.8) and sustained for the duration of the experiment. However, salinity was also quite high (19% higher than the water controls).

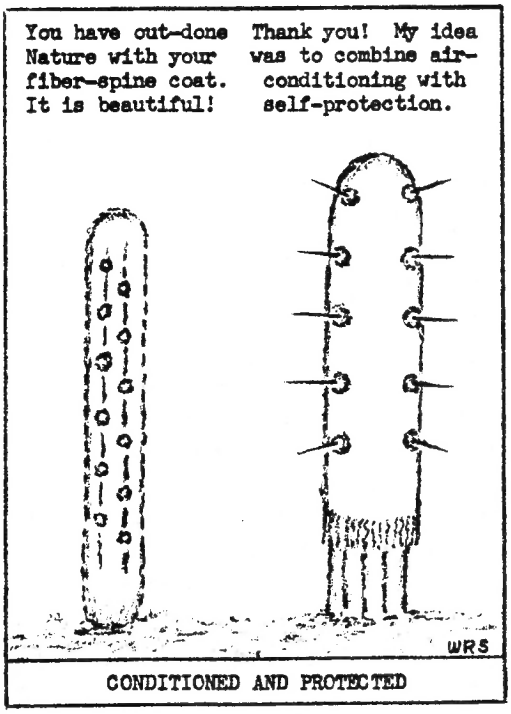
In conclusion, it can be stated that tap water alone, if added in sufficient quantity so as to allow a considerable volume to drain out the bottom of the pot, does increase the pH slightly over a sustained period of use but that an increase in salinity is discouraged. But the soil amendments studied not only did not back the manufacturer's claims, but in some cases could cause considerable harm in that salinity was markedly increased. So, let the buyer beware!

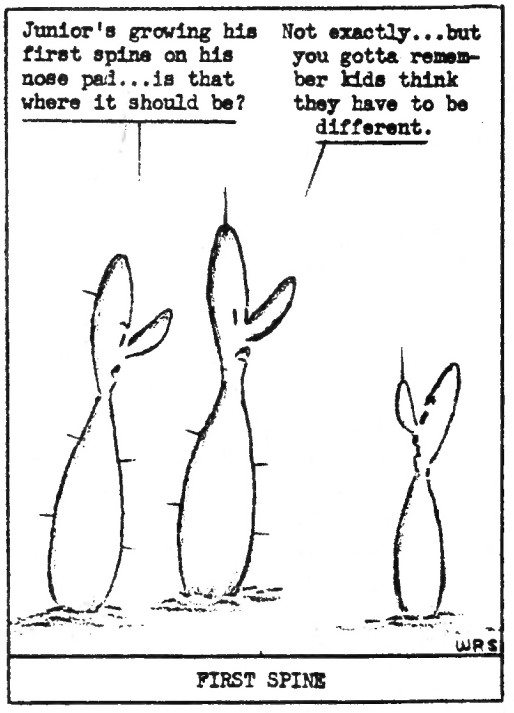
References cited

Monroe, R. E. 1978. Use of Green-O-Matic---Warning. Espinas y flores XIII: 3.

Monroe, R. E. 1979. Effect of some amendments on pH and salinity of potted soils. Cact. Succ. Soc. J. In press.

Richards, L. A. 1954. Diagnosis and Improvement of saline and a alkali soils. U.S.D.A., Agric. Handbook No. 60.





QUAIL GARDENS

The Dedication of the "Mildred Macpherson Waterfall"

For those of you who did not attend the Dedication of the Waterfall, I must tell you that it was a completely successful occasion, with everything going exactly as planned.

The day was beautifully warm and sunny, and those who participated in the ceremonies were able to enjoy them to the full. We were all delighted that Mrs. Florence Seibert was sufficiently recovered to deliver her outstanding speech. Florence is the sole surviving member of the "Three Musketeers" (the other two being Mildred Macpherson and Julia von Preissig), who did so much to get Quail Gardens started, in its early stages. The rest of the speakers were very interesting, reasonably brief, and very much to the point, so, all in all, it proved to be a most interesting and enjoyable occasion.

To those of you who have not, as yet, seen our beautiful waterfall, I would say, be sure to pay it a visit. The Gardens are particularly beautiful in the Springtime, and you won't be disappointed, that I promise you!

"Fun and Funds Festival"

Just a quick word here to remind you to get your plants ready for the big Spring Sale, on Sunday, May 8th. All donations should be delivered to the area surrounding the Ecke Family Building on the Friday before the Sale, for inspection. Thank you.

— Audrey Johnson
Publicity Chairwoman & Trustee
Quail Gardens Foundation, Inc.

NEW ANZA-BORREGO VISITOR CENTER

The magnificent new $1 million visitor center at Anza-Borrego Desert State Park was officially dedicated Friday, March 16th and is now open to the public.

The 7,000 square-foot facility is a "semi-subterranean," concrete masonry structure with a concrete slab roof covered with earth, which will be landscaped with native desert plants.

The new center is located on Palm Canyon Drive, just west of Borrego Springs, and includes a small theater for audio-visual presentation, a large exhibit area, research workroom, library, and public restrooms.

Be sure to stop and see this excellent new facility the next time you're in Borrego Springs.

NOTES & NEWS

It was announced at the March meeting that this years Annual Open House and Plant Sale (June 2nd and 3rd) will be under the very capable direction of Floyd Gable (who usually takes home a sizable portion of the ribbons and trophies presented at this event). Begin planning now to put in a display, help with setting up or taking down exhibits, or offer whatever form of assistance you can. A major production such as this requires the efforts of as many members as possible. If you wish to enter a display or volunteer to help, see Floyd at the April meeting or contact him at 448-8041.

Also, it's time to begin potting up any cuttings, starts, etc., that members wish to contribute to our Annual Plant Sale. Some plastic pots are available for those who have cuttings to pot up for the sale. Contact Carl McLeod (279-2817) if you would like some pots for this purpose. Please bring any unrooted cuttings you wish to donate to Carl McLeod by May 1st so that he will have an opportunity to root them by the June 2nd & 3rd show.

A reminder that the following members have signed up to provide refreshments for the April meeting:

May Andrews, Marcelle Barfield, Helen Bowen, Russel Evans, Laura Fowlkes, Joan Johnson, Randy Jungers, Angela Ledbetter, Marianne Thrombley, and Alberta Widen.

The Regalement Committee will need extra help in providing refreshments for the special program by the Lambs on May 4th, so please contact Nancy Roth at the April meeting if you can help.

Winners of the "Bragging Plant" competition for March were:

1st: Martin Mooney — *Islaya paucispinosa*
2nd: Frank Thrombley — *Mammillopsis senilis*
3rd: Carl McLeod — *Mammillaria prolifera*

The March Member's Monthly Display Table consisted of two different exhibits — an interesting display of geometric plants by Rick Latimer and an outstanding collection of Thelocacti by Joan Johnson. April's display, by John Pasek, will feature succulent members of the Euphorbiaceae.

Martin Mooney is searching for a "better" name for the "Member's Monthly Display Table" so, if any of you have a catchy title, please pass it along to Martin.

Ethel Standish and Doris Rake could use some additional help manning the Plant Exchange Table at the meetings. If you care to volunteer, please see either of these two ladies at the April meeting.

In addition, the suggestion has been made that members somehow label the plants that they bring in for the Plant Exchange Table.

The "Interest Finder" questionnaire will be available again this month at the reception table. If you have not already done so, please take one and fill it out. Return your completed forms to the reception table or to Shirley Berry.

Rumor has it that the Plant Sales Chairman and his chief accomplice went on another buying spree this past month to two well-known Fallbrook nurseries where they obtained a number of choice "goodies" at very reasonable prices. So be advised and come early to the April meeting (and don't forget the checkbook!).

Don't Forget — the Cactus and Succulent Society of America will hold its 18th biennial convention May 21-25, in Pasadena. For more information or registration forms, send a stamped, self-addressed No. 10 envelope to the CSSA Convention Committee, c/o Virginia Shambeau, Registrar, 8354 East Woodlawn Street, San Gabriel, CA 91775.

Deadline for the May issue is April 25th.

San Diego Cactus & Succulent Society

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President - Tom Hamecher 440-6245
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Representatives:
Balboa Park Desert Garden -
Quail Botanical Gardens - Audrey Johnson
S.D. Botanical Garden Foundation -
S.D. Floral Association - Verna Pasek

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 $6.00 per family. Single copies of *Espinas y Flores* are 50¢.

Jim Dice
3228 Clairemont Drive
San Diego, CA 92117

Address Correction Requested