



# Espinas y Flores

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

Volume XVII, Number 9

September 11, 1982

## SEPTEMBER MEETING

Saturday September 11, 1982

1:30 pm

Casa del Prado, Room 101, Balboa Park

## PROGRAM FOR SEPTEMBER

### EUPHORBIACEAE

Madelyn Lee will conduct a study of the Genus Euphorbia. Madelyn is considered by her peers to be an expert in the pollinization, propagation and cultivation of this diverse genus.

All members are encouraged to bring their Euphorbias to help in the presentation of this educational Program. This is a good opportunity to ask the expert about your questions on this very popular genus.

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## THANKS TO---

Shirley Berry, Dee Hughes, Madelyn Lee and Mark Donnell

FOR DONATING PLANTS TO SELL

Also Thanks to Shirley Berry for her contribution of 13 copies of "Arizona Highways"

## Welcome to our new members---

Peggy P. Donovan, Chula Vista  
 William S. Hanna, San Diego  
 Sarah Mapel, La Mesa  
 James M. Moran, San Diego  
 Lit Paan, San Diego  
 Mavis C. Verzin, La Mesa

Jerry & Kathryn Estes, San Diego  
 Robert D. & Nancy Henschel, Bonita  
 The Lolan E. Hopper Family, San Diego  
 Barbara N. Olson, Chula Vista  
 Martha Watts Tingler, San Diego  
 Herbert Wohl, La Jolla

## Braggin Table Winners at the August Meeting were:

- 1st - Lee Phelps for his *Pterodiscus speciosa*
- 2nd - Ruby Winters for her *Trichocaulon clavatum*
- 3rd - Martin Mooney for his *Welwitschia mirabilis*

## SHOW SCHEDULE FOR SEPTEMBER AND OCTOBER

Sept 25 & 26 San Diego Bonsai Fall Show

Sat: 10am - 5:30pm Sun: 10am - 5pm

Oct. 2 & 3 Balboa Park African Violet  
 Fall "mini" Show

Sat: 10am - 4:30pm Sun: 10am - 4:30pm

## Those who are to bring refreshments for September are:

Jan Miller Marianne Thrombley Edith Pratt Mary Aubuchon Floretta Warner  
 Jean Parks Jennie Wesley Diane Stolze Margaret Daigle Ethel Standish

## REMINDER---

The special plant exchange is coming up for December - You might begin planning what plant you will want to bring. More in the later issues.

Membership dues paid in November will be \$7.00 and will carry the membership through until December 1983.

## NEWS FROM THE LIVING DESERT RESERVE - Palm Desert, California

Saturday October 9 - 9:00 - 3:00 NATIVE DESERT PLANT SALE. Trees, shrubs, flowers, ground covers, cacti, succulents. All are drought resistant desert natives and most are difficult or impossible to find in nurseries. Care sheets and desert plant books also available. Admission to the sale, free; to the Reserve's exhibit areas, \$2.50 for Adults; 16 and under free, with an adult.

Remember that the October meeting will be held at the Wild Animal Park- More in the next issue.

DEADLINE FOR THE OCTOBER ISSUE-- SEPTEMBER 27 ----

Turbinicarpus

Dr. Ronald E. Monroe

The genus Turbinicarpus (top-fruit) comprises a group of small, inconspicuous, more or less globose, mimicry cacti of the Chihuahuan desert of northern central Mexico (Saltillo in the north to San Luis Potosi and Las Tablas in the South).

The epidermis of the plants is rather soft varying in color from grayish to bluish green to brown; the plant stems are somewhat depressed and pulled low to the soil by large, tapering, fusiform roots.

The spines are of two types: the immature plants all possess rather pectinate and plumose spination with no centrals whereas the mature plants (except T. valdeziana and T. pseudopectinata) have spines that have evolved into structures of camouflage rather than armament for protection (papery or cardboard-like, soft or stiff, tortuous and hair-like, or plumose to pectinate).

Flowers are rather large, open, and white or pinkish (except T. valdeziana which has a reddish violet form near Saltillo).

Since their discovery in 1927 by Bodeker, this group of plants has been the focus of much controversy taxonomically. They have been placed at one time or another, in the following genera: Echinocactus, Strombocactus (and quite a few authors still think this is proper for the genus), Thelocactus, Toumeyia, and, finally, Turbinicarpus. An interested reader is referred to the excellent review by Glass and Foster (1977) who report these plants in great detail. Included in the review, and with some surprise, is their novo comb. of Normanbokea valdeziana and N. pseudopectinata to the Turbinicarpus genus. Naturally, they did not propose this lightly, but with solid evidence based on flower, fruit and seed morphology rather than gross plant stem and spine morphology -- only the time will judge whether this was a valid decision.

The species now felt proper to the genus are: T. schmiedickeanus v. schmiedickeanus, T. s. v. gracilis, T. s. v. macrochele, T. s. v. klinkeranus, T. s. schwarzii, T. lophophoroides, T. laui, T. pseudomacrochele v. pseudomacrochele, T. p. v. krainzianus, T. valdezianus and T. pseudopectinatus. A new variety, T. schmiedickeanus v. dickisoniae, was reported only recently (Glass and Foster; 1982) and, although not yet popular in collections, should soon be available as seedling plants.

The plants do quite well in full sun or in a greenhouse, but they should be protected from hard winter frost. Plants in nature are used to a very Spartan existence, so prolonged periods of summer drought does not appear to harm them. Generous low-nitrogen feeding during the growing/flowering period will insure excellent flowering the following season with T. lophophoroides usually being the most free-flowering of the group.



## THE SUCCULENT EUPHORBIAS

(Euphorbiaceae, or Spurge Family)

Dorothy Dunn

The Euphorbia family is one of the largest, most fascinating and diverse of all the families of flowering plants, distributed over the entire earth, and comprising about 250 genera and about 6,000 species of trees, shrubs, herbs, and weeds, all having an unpleasant milky sap called latex. Only those which are strikingly cactus-like and which are native to desert regions of Africa, Madagascar, India, the Canary Islands, and Mexico can be classed as truly succulent, and these 400 to 500 species are the ones which are of especial interest to us.

Euphorbias first gained recognition more than 2,500 years ago. The earliest reference to them is associated with Hippocrates, the Father of Medicine, and the few species known to the earliest botanists and physicians were of interest primarily for the purgative medicinal value of their latex. The popular name, Spurge, has been derived from this use of the plants. However, many native tribes, past and present, devised various other uses for the succulent Euphorbias, ranging from the practical to the amusing to the downright bizarre and even unmentionable!

The medicinal properties of certain species of Euphorbia have been well-known for centuries. Even today Euphorbias are still used in traditional native medicine. This seems contradictory in view of the fact that some of these same species are even better known for their exceedingly poisonous qualities; for example, E. tirucalli, one of the most poisonous, was supposedly used as a cure for gonorrhoea. It was also commonly planted on graves! - (possibly after it had contributed to the demise of their occupants?). It was also experimented with as a source of low-grade rubber during World War II, and more recently as a source of fuel. E. ingens was used by the Zulus as a purgative, and by the Sutos to treat dipsomania and cancer. Synadenium grantii, a close relative of the Euphorbias, was used by the Barotse to cure leprosy. At the other end of the scale, some Euphorbias are smoked in pipes by the Zulus in order to commit suicide.

The caustic latex, or sap, of Euphorbias is a common phenomenon in the genus, and is distributed through the plants by a series of tubes. Some species cause blistering of the mouth, diarrhoea, pericarditis, and dropsy. The previously-mentioned E. tirucalli causes severe dermatitis. Its latex is extremely irritating to the eyes, and can even cause temporary blindness. The branches of this species are bruised and thrown into the water to stun and poison fish. E. virosa is known as the "venomous Euphorbia"; the poisonous latex of this plant was used by African Bushmen and Hottentots as an ingredient for their arrow poison. E. matabelensis was used as a source of bird-lime to catch small birds (as well as large crickets) which were then roasted and eaten. Some species, notably E. cooperi, E. marginata, and E. tetragona, attract hordes of bees when in flower, but the resultant honey is of no value - it is dark in color, and is extremely unpleasant to eat, being either sour, bitter, or as

hot as pepper. At one time this honey was used for treating sore throats, but since the remedy was usually more painful than the ailment this practice has long since been discontinued. E. antisiphilitica is a source of candelilla wax, which is found as a coating on the surface of the plant. The wax is obtained by immersing the stems in boiling water; the wax melts and rises to the surface. The refined wax was used (at one time) in the manufacture of phonograph records, celluloid articles, varnish, shoe-polish, floor wax, as an insulating agent in electrical equipment, and as water-proofing for tents. It is still sometimes used in the making of lipstick.

The Zulus used Euphorbias as an ingredient in their fly exterminators (unfortunately this priceless secret formula as not been preserved!), and some species were used in shampoos to "de-louse" the hair. E. ingens and E. balsamifera were commonly used as hedge material and for boundary markers.

Even non-succulent Euphorbias contain the irritating milky sap, one of the most notable being the common and obnoxious weed E. maculata ("spotted spurge"), which is widespread and practically ineradicable throughout the southwest, and which causes severe itching, rash, and inflammation of the skin. Even insects will not touch it.

The "native" antidotes for the pain and irritation caused by Euphorbia sap are reputed to be the juices of Aeonium lindleyi and Senecio anteuphorbium.

The name Euphorbia was first applied to these plants by King Juba II of Mauritania who discovered a species (probably E. resinifera) growing on the slopes of Mt. Atlas and named it after his favorite physician Euphorbus. The word Euphorbus in Greek means "well-fed", and this probably seemed an appropriate name for these strange, thick succulents.

The succulent Euphorbias, which greatly resemble some cacti with their fierce spines and strange shapes, are actually far removed from that family, but the two have worked out water storage and heat resistance problems practically on the same principles. In the process of adaptation to drought and in almost every other way the succulent Euphorbias are to the Old World what cacti are to the New. This resemblance is one of the classic examples of parallel development in the plant world, and can be very confusing to the uninitiated. However, there are several important differences which will help in identifying the Euphorbias. First, all Euphorbias exude the milky sap, or latex, which has already been mentioned, while in the Cactus family this is a rarity, occurring only among certain species of Mammillaria. Second, the Euphorbias do not produce their spines from areoles as do cacti, but directly out of the stem itself. Third, the Euphorbias have a strange and complicated inflorescence, utterly unlike the simple and showy cactus bloom. Although Euphorbia flowers are usually small and insignificant, they are very intricately constructed. And finally, while the cactus fruit is a one-celled berry with the seeds simply scattered through it, the Euphorbia fruit is usually a three-lobed capsule, each lobe containing a single seed; it bursts explosively when ripe, sometimes hurling the seeds for several feet.

Euphorbias can be found growing anywhere from the very arid regions of southwest Africa to the tropics of the Belgian Congo, and at least one species has been found at an altitude of 6,000 feet. They range in size from tiny plants only an inch or two high to huge tree-like specimens which can attain a height of 60 or even 90 feet. For instance, E. ingens can easily reach a height of 30 feet or more; this plant is sometimes called the "cactus Euphorbia" and the specific name "ingens" means "huge" or "gigantic". Some Euphorbias have large tuberous roots such as E. squarrosa, E. ornithopus, E. knuthii, and E. tortirama, to name but a few, and can be made into interesting, almost bonsai-like specimens.

Most Euphorbias grow most vigorously during the hottest part of our summer, but many, once established, will continue to grow through the winter. They may be grown out-of-doors in almost any type of well-drained soil (the soil should be sandy and porous, yet nourishing). They need protection from frost and excessive rainfall. Good drainage is of vital importance. The species with leaves can be given plenty of water in the summer but the highly succulent species must be watered very carefully, especially in winter. Many species do better with at least partial shade, and most are frost-tender and prefer very warm conditions.

Pollination is usually by flies or small insects, or by the force of the wind, and propagation is by seed, cuttings, or grafting. The seeds are disseminated by ejection - a three-foot high plant of E. grandicornis has been known to expel its seeds a distance of twelve feet. All branched Euphorbias may be propagated by cuttings, and this should be done only in warm weather. The cuttings are often very slow to root; it is not unusual for a cutting to take a year or more to root. Also, cuttings of some species such as E. caput-medusae or E. bergeri may not at first assume the characteristic shape of the parent plant. Cuttings will bleed profusely, and should be dipped in dry clean sand or washed off with water to minimize this, then allowed to dry thoroughly. This can be a matter of days or even weeks in the case of larger-stemmed cuttings. The cuttings are then placed in very sandy soil or other porous rooting medium (I have had excellent results with pumice), which should be kept fairly dry until roots begin to appear. Whenever Euphorbias are grafted, the stock is usually E. mammillaris or E. cereiformis.

It is better to underpot these plants - the depth of the pot is more important than the diameter as many Euphorbias have large, long roots. Also, it's a good idea to re-pot about every other year with fresh soil in order to maintain good health and vigorous growth.

Euphorbias are remarkably free from pests, although some species seem particularly susceptible to a kind of mildew which generally attacks the new growth. I have found that plenty of fresh air can be a deterrent, and in some cases even a cure, for this problem. Also, root nematode may occasionally attack Euphorbias. Whereas this can be extremely detrimental to cultivated plants in your garden, according to one authority it can actually be beneficial to plants growing in the wild - "it causes the rootlets to swell out, and the bladder-like extensions thus formed act as reservoirs for water"!!!

A number of Euphorbias are native to Baja California, including E. misera (the most common, prolific, and wide-spread species), E. xanti, and E. tomentulosa.

Other closely-related genera include Pedilanthus, Synadenium, and Monadenium, which all contain the same milky sap.

References cited:

<u>Cactus and Succulent Journal of America</u> , various issues	
Chidamian, Claude:	<u>The Book of Cacti and Other Succulents</u>
Hasleton, Scott:	<u>Succulents for the Amateur</u>
Jacobsen, H.	<u>Handbook of Succulent Plants</u>
Rowley, Gordon:	<u>The Illustrated Encyclopedia of Succulents</u>
White, Dyer, Sloane:	<u>The Succulent Euphorbieae</u>



The Japanese Friendship Garden of San Diego

The Japanese Friendship Garden Society of San Diego is planning its second Garden Festival to be held in Balboa Park in and around the Organ Pavilion area on Sunday, November 14, 1982 from 10 a.m. to 4:30 p.m.

If you were a participant in the activities for the first festival on June 14, 1981, you already know the enthusiastic and overwhelming response of the public to this event; if you were not, we invite you to share with us another memorable day.

Each group who participates will either have a table for selling items or will have space for demonstrations. Remember that the festival is timed just before the holidays, so gift items would be essential. It is up to your group to decide and also to coordinate with the committee to avoid as much duplication as possible. The Garden asks for 50% of your profits made during the festival, the money to be used for projected First Phase construction.

An initial planning meeting will be held Wednesday, September 8 at 7 p.m. in Room 104, Casa del Prado, Balboa Park.

If you have any questions, contact either one of the co-chairmen, or call the Garden office (232-2721) leaving your message on our recorder.

Helen Lewis (Mrs. Carson and Grace Brophy (Mrs. James J.)

457-3672

459-8572

Co-Chairmen, Japanese Friendship Garden Festival



GARDEN HINTS - - Reprinted from the *Espinasy Flores* , August 1975

Problems with mildew in seedlings? Try Consan 20 fungicide. I find it excellent for the control of algae, fungi and unwanted bacteria. It protects against damping off but should not be used on very young seedlings such as *Mesembryanthemums* and never on *echeverias*.

Emergency treatment for your doomed favorites: Overwatering causes black rot, a condition quite often fatal to the plant. An amateur grower describes his method of saving plants thus affected in the *American Cactus and Succulent Journal* (Jan. —Feb. 1955). Melt some paraffin wax and cool it to the point where it would no longer cause blistering of the skin. Then dip the butt of the remaining stem into the wax to a depth of approximately one inch and repot the plant. Reportedly, this method produces re-rooting and is particularly well-suited for *Stapelia gigantia*, *Aloes*, *Haworthias*, *Barrel Cacti* and *Epiphyllums*.

Novel way to grow Christmas Cactus, *Rhipsalidopsis*, etc: (*CSIE*, Jan. 1975) Insert several or numerous cuttings in a ball of sphagnum moss, having first soaked same in fertilizer solution. Water every week or so, adding fertilizer every two or three weeks. One way to arrive at a ball of moss would be to stuff a plastic net bag with it (such as onions come in). Most practical way to water would be soaking in a pan of water.

The following hint was in the April 1975 Issue

The Editor as the printing of both of these articles was Augie Pfeiffer



*When a mature Aechmea, or other bromeliad, such as Neoregelia, fails to flower, budding can be hastened by this procedure: Place a ripe apple in the center of the leaf rosette and seal inside a plastic bag. After 48 hours, remove the plastic and apple. Flowering should occur within a few weeks. Ethylene gas given off by a ripe apple speeds the maturing process, thus causing blooms to appear.*



# SAN DIEGO CACTUS & SUCCULENT SOCIETY

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The San Diego Cactus & Succulent Society is open to all persons interested in growing cacti, other succulents and exotic plants. Meeting 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 \$7.00 per family. Single copies of Espinas y Flores are 60 Cents.

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