



Espinas y Flores

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

Volume XXII, Number 8

August 8, 1987

AUGUST MEETING

Saturday, August 8, 1987

1:30 p.m.

Casa del Prado, Room 101, Balboa Park

Program: THE NATURAL HISTORY OF BAJA CALIFORNIA'S PACIFIC ISLANDS

by Tom Oberbauer

Our program this month will feature an illustrated talk by local botanist Tom Oberbauer on the natural history and vegetation of the Pacific islands off the coast of Baja California. His program will include looks at the islands of Guadalupe, Cedros, San Martin, Todos Santos, the Coronados and the San Benitos and will emphasize the succulent floras of these islands.

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DEADLINE FOR SEPTEMBER ISSUE AUGUST 29

Thanks Mary

NEWS NEWS NEWS- - - - -



A reminder that it is Panda Days at the Zoo. You may have more trouble than usual to find parking because of this. So come early and try to car pool if possible.

* * * * *

WELCOME TO NEW MEMBERS

- | | |
|-------------------------------------|---------------------------------------|
| John & Mary Cooper - Vista | Jean W. Rucker - El Cajon |
| Thomas & Laura DeMeritt - San Diego | Narcos Medical Group Inc. - San Diego |
| Kathy & Harry Bailey MD - Coronado | Virginia Innis - San Diego |
| Thomas D. Carpenter - Lakeside | Brooks McClure - San Diego |
| Edward Watkins - Spring Valley | Arlene K. Stanfield - San Diego |

* * * * *

Those who have volunteered to bring refreshments for the August Meeting are:

- | | | |
|------------------|------------------|------------------|
| Diane Crowley | Reed Pierce | Dyan Brown |
| Susan Clements | Avelina Gaerlan | Teresita Lime |
| Doris Rake | Marie Pearce | Elibet Marshall |
| Phyllis Flechsig | Elizabeth Glover | Jeanette Dutton |
| Donna Couchman | David K. Cheng | Mark St. Clair |
| Rose D'Attilio | Ernest Angus | Francis J. Nardi |
| | Chloe Bajwa | |

Great Response! Thanks

* * * * *

BRAGGING TABLE WINNERS FOR JULY.....

- 1st Place - Dorothy Dunn for her Copiapoia krainziana
- 2nd Place - Dorothy Dunn for her Sansevieria pinguicula
- 3rd Place - Jerry Brattmiller for his Scadoxus multiflorus

Cacti-of-the-Month

HELIOCEREUS & SELENICEREUS

or. "of the sun and the moon"

by Rick Latimer

The subfamily Cereoideae (the largest in the cactus family), has members that fall into five basic habits. First there are the "spherules" that cluster into small mounds (such as Rebutias and most Mammillarias), thirdly there are the classic columnar and candelabrum style cacti (such as Pachycereus and Neoraimondia), secondly there are the somewhat transitional semispherical to semicolumnar cacti (such as Ferocactus or Denmoza), and fifthly there are the flat-stemmed, mostly epiphytic cacti (such as Epiphyllum and Schlumbergera). The fourth group covers the somewhat transitional plants that are thinner stemmed, fewer ribbed, and often longer stemmed than the classic cereoids and inhabit areas that are more like a jungle than a desert, where the species clamber over rocks or vine up trees, yet are not usually epiphytic like the fifth group.

As in any transitional group, it is difficult to draw the line. One could say, well if you chose these genera, why not these other similar ones? This month we will cover the genus Selenicereus and some of the other presumed closely related genera, but not such things as Wilcoxia, Peniocereus, Acanthocereus, Nyctocereus, Eriocereus, or Harrisia that may or may not be relatively closely to what we will cover.

Two plants that are often compared are Selenicereus macdonaldiae and Hylocereus undatus. Both have huge 12 inches in diameter flowers that are night blooming and have white petals and green sepals (although the first one's back sepals are brown). The pistils are comparatively thick, the stamens are very numerous, and the flower tubes are relatively long. In contrast, the first one's tube and fruit are spiny with hair-like bristles, while the second one's are completely spineless and are covered with huge scales (similar to Pterocereus) that remind one of an artichoke. Also in contrast are the stems of these two species. The first one's are finger thin and roundish with little knobs topped by small spines. The second one has winged triangular stems with more horn-like spines. However, both species stems are green, both plants prefer to climb rather than hang, and both plants' stems send out roots that arise from the stem between the areoles that attach the plant to its host (be it tree, fence, or house). [A note on these roots: Dolly Kolli of Mashpee, Massachusetts writes on the closely related Mediocactus setaceus: It is a monster but does nothing - it has yards long aerial roots which insinuated themselves into the oak flooring (through 3 coats of urethane varnish) of the livingroom floor. It was quite a job to scrape them out and fix the floor for the second time. It has been threatened that if it does not bloom this year it's going out! This is no subject to keep as a houseplant!] Because the fruits are so different these two plants are in separate genera.

The other species in these two genera run a parallel course. S.-

hamatus and H. calcaratus both have knobby areoles. Some of the other species' flowers are smaller and the tubes are shorter. The smallest Hylocereus flower is about 2 inches in diameter with practically no tube and is H. (=Wilmattea) minutiflora. The smallest Selenicereus flower is S. innesii with similarly sized flowers. [note: This species is odd in that one variety has flowers that never open and only has a pistil without the stamens! This means this species is the only confirmed case of complete dioecy in the entire cactus family!] Other outstanding species are H. stenopterus with purple flowers, H. extensus with pink to red flowers, H. lemairi with the typical white petals, front sepals are yellow with a rose colored base, back sepals are green with a yellow stripe and a purple tip, and the scales are green with blackish edges, S. wercklei with red sepals, S. (=Cryptocereus) anthonyanus with purple sepals [and fishbone stems!], and S. grandiflorus with brown to orange sepals [and a vanilla scented flower and purplish to bluish stems].

Similar genera include Mediocactus, Deamia, Strophocactus, Werckleocereus, Weberocereus, and Eccremocactus. The first one is defined by plants that are similar in every way to Hylocereus, except the fruits have some spines on them (absolutely forbidden!) - hence 'Mediocactus' = between Selenicereus and Hylocereus. Deamia testudo and Strophocactus wittii both are generally considered to be part of Selenicereus. Both have the peculiar habit of clinging tightly to the tree that they climb, making collecting difficult without damaging the stems. They both have similar bristly spines. The first species has 3 to 8 winged stems, while the second one's are always flat. However the flowers are not that similar, the second one being very much thinner and smaller in diameter. It is thought that these two species are not necessarily closely related within the genus Selenicereus. The last three genera are also transitional and there is a great deal of controversy over their true relationship.

Selenicereus is named after the moon, since the flowers bloom at night. Heliocereus is named after the sun, since its flowers bloom during the day. Its species are generally terrestrial although some are hanging, some species are rather spiny, although some are nearly spineless. The flowers are colorful: H. speciosus (red and purple), H. aurantiacus (orange), and H. speciosus var. amecamensis (white). Another genus of "jungle" cacti with colorful cacti is Aporocactus. Plants are epiphytic with thin, round spiny stems that get quite long in habitat. The flowers are zygomorphic - a rarity in this family - also seen in Matucana, Rathbunia, and Schlumbergera - and are favorites of hummingbirds. It is not clear how these two genera are related to one another or who they in turn they are closely related to, but both have been extensively hybridized with Epi-phyllum to make many beautiful flowers.

Note: All of these genera are included by Lyman Benson in his definition of the huge genus Cereus.

REFERENCES:

Lyman Benson, The Cacti of the United States and Canada
Wilhelm Barthlott, Cacti
Myron Kimmach, many articles in the CSSA Journal

SUCCULENT-OF-THE-MONTH

THE NOLINA FAMILY (NOLINACEAE)

The Nolinaceae is a small family of monocotyledonous shrubs and small trees native to the arid and semi-arid portions of the southern United States, Mexico and Guatemala. The approximately 40 to 50 species are divided, in most taxonomic treatments (e.g. Rose 1906; Trelease 1911), into four genera: Beaucarnea, Calibanus, Dasyilirion and Nolina. Family members possess trunks that are generally stout (or "caudiciform" - as defined by Rowley [1978, 1987] in Beaucarnea, Calibanus and a few nolinias), simple or sparingly branched, with each stem bearing a terminal rosette of crowded leaves. The leaves are long, linear, parallel-veined, with enlarged leaf bases and a number of xeromorphic adaptations (e.g. sunken stomata and a thickened cuticle). The terminal flower stalks, or panicles, are often of considerable size and bear great numbers of flowers. Individual flowers are small and cream to white in color with an undifferentiated perianth of six tepals. Members of the nolina family are dioecious - i.e. individual plants are either "male" or "female."

Beaucarnea is a small genus (ca. 5-8 species) of large arborescent plants with swollen trunk bases found from northeastern Mexico south to Guatemala. The flower stalks of beaucarneas are somewhat intermediate in size and open-branching. The ovary in the pistillate flowers contains a single cell, or locule, and produces a papery, three-winged fruit with a single, central strongly three-angled seed.

Calibanus is a monotypic genus from central Mexico that is notable for its large, mostly subterranean lignotuber (or caudex) that produces rosettes of grass-like leaves. Flower stalks of Calibanus are small, mostly inconspicuous, simple panicles. The ovary contains three locules and the fruits are thick-walled, three-angled nutlets that contain a single globose seed.

The genus Dasyilirion contains about 10 to 20 species of large shrubs found from southern Arizona, New Mexico and Texas south to Oaxaca in southern Mexico. In all but one species the leaf margins are armed with large conspicuous (and dangerous!) prickles. The exception, D. longissimum from eastern and central Mexico, has unique leaves that are quadrangular or square in cross-section and lack conspicuous prickles along the margins. All members of the genus have a large, compound spike-like inflorescence, a unilocular ovary and papery, three-winged fruits with a single, central three-angled seed, just as in Beaucarnea.

Nolina includes approximately 20 to 25 species, varying from large tree-like forms to bulb-like acaulescent sub-shrubs. It extends geographically from the southwestern and southeastern United States south to Oaxaca in southern Mexico. The margins of the leaves in most nolinias are edged with miniature tooth-like prickles, larger than those of Beaucarnea and Calibanus, with a razor-like sharpness. The flower stalks vary from small simple panicles to large stout compound panicles. As in Calibanus, the ovary in Nolina is three-celled or loculed, but in Nolina the fruits

are papery, inflated capsules that contain one or two (occasionally more than two) globose seeds.

Undoubtedly most of you are more familiar with these four genera as members of the agave family (Agavaceae). The agave family as originally comprised by Hutchinson (1934), contained a number of genera of questionable relationship to the agaves and yuccas, including: Beaucarnea, Calibanus, Dasyilirion, Nolina, Draceana and Sansevieria, among others. An excellent review of problems associated with Hutchinson's composition of the Agavaceae was provided by Moran (1949). In most recent taxonomic treatments of the monocotyledons Hutchinson's Agavaceae has been rejected in favor of a much more narrowly defined agave family that includes only Agave, Yucca, Hesperaloe, Furcraea, Beschorneria, Manfreda, Prochnyanthes and Polianthes (tuberoses). All of these genera possess very similar fruit and seed characteristics and all have the same unique arrangement of chromosomes. Besides segregating the four genera discussed above into the Nolinaceae, the other change affecting succulent members of the group has been the inclusion of Draceana and Sansevieria within the Draceanaceae. A brief discussion of the taxonomic history of the Nolinaceae appears in Johnson and Gale (1983), while a thorough discussion and taxonomic treatment of the relationships among monocotyledons can be found in Dahlgren et al. (1985).

Six species of Nolina occur naturally here in southern California and down the Baja California peninsula. Nolina bigelovii is a large shrub with unusual filiferous leaf margins found in the higher elevations of the Sonoran Desert from southeastern California (including southeasternmost San Diego County), southern Nevada, western Arizona, northwestern Sonora and the eastern and desert portions of Baja California Norte. A color photograph of it appears on page 55 of Coyle and Roberts' (1975) A Field Guide to the Common and Interesting Plants of Baja California, but is unfortunately mislabelled as N. palmeri. Nolina wolfii is a large massive shrub found throughout the desert mountains and Peninsular Ranges of southern California. In San Diego County, N. wolfii can be seen in the Pinyon Mountains, where it is locally common, and along the western edge of Anza-Borrego Desert State Park and the eastern slopes of the Laguna Mountains. Elsewhere, N. wolfii can be seen in Joshua Tree National Monument and in the Kingston, San Jacinto and Santa Rosa mountains. It is easily distinguishable from N. bigelovii by its razor-sharp leaf margins. Nolina parryi occurs in the chaparral of cismontane southern California, from near Ojai in Ventura County to Viejas Mountain in southern San Diego County. A fourth species, N. interrata, is a low-growing form that produces large subterranean Calibanus-like lignotubers. It is only known from a few small populations in southwestern San Diego County and a small cluster of populations just north of Ensenada, in Baja California. Nolina interrata is listed as an endangered species by the State of California and appears on Appendix I of the Convention on International Trade in Endangered Species. Two other species of Nolina are found only in Baja California. Nolina palmeri is a stem-less, grass-like species endemic to the higher elevations of the Sierra Juarez and Sierra San Pedro Martir. Nolina beldingii is a tree-like form found in the higher mountains of Baja California Sur, such as the Sierra San Francisco and the Sierra de la Laguna. Two poorly known variants of these two species, N. palmeri var.

brandegeei and N. beldingii var. deserticola have also been reported from Baja California.

Members of the Nolinaceae are easily grown here in southern California, but only Calibanus hookeri is suitable for container culture beyond the juvenile stage. All species are easily grown from seed and require no pre-treatment for germination, with the possible exception of Calibanus hookeri (see Johnson and Gale 1983). All four genera do well outdoors here in southern California, but may require many years of growth to reach flowering age and maturity. This is particularly true of the large shrubby and arborescent forms of Nolina, which require from eight to fifteen years of growth, generally, before they attain flowering size. The best collection of Nolinaceae in cultivation here in southern California can be seen at Huntington Botanical Gardens in San Marino, where all four genera are represented with mature, flowering-size plants in the twelve-acre Desert Garden. Our own Desert Garden in Balboa Park has a grove of Beaucarnea recurvata and some nice specimens of Dasyllirion. Dasyllirion and Beaucarnea recurvata are also represented in the collection at the San Diego Zoo. The four species of Nolina from California can be seen in cultivation at Rancho Santa Ana Botanic Garden in Claremont. To my knowledge members of the Nolina family are not particularly troubled by insect pests in cultivation, other than the ever-present mealy bug.

Flowering among members of the Nolinaceae is often a spectacular event. The large open panicles of Beaucarnea and Nolina commonly can have over 100,000 flowers per inflorescence while the densely congested spike-like stalks of Dasyllirion may have as many as 500,000 individual flowers. Pollination in natural populations is mostly accomplished by bees and, occasionally, wasps. Though their natural pollinators are primarily native solitary bees, the flowers are also popular with the ubiquitous, introduced honey bee. In southern Arizona and California, Dasyllirion wheeleri and Nolina parryi are reportedly victims of extensive seed predation by a small moth, Mesepiola specca, which is related to the Yucca Moth (Tegeticula spp.). The adult female moth oviposits her eggs in the ovary of the flower and the larvae begin development after the seed has matured, feeding on the seed. The mature larvae eventually burrow out of the capsule and drop to the ground. There they dig into the soil and construct cocoons. The larvae overwinter in the soil and pupate in late spring the following year. The spined pupa digs its way out of the ground before the adult moth emerges (Frack 1982).

The leaves of many species of Nolina and Dasyllirion have been used for thatching, mats, basketry and hat-making by aboriginal peoples in the southwestern U.S. and Mexico (Rose 1899). The harvesting of nolina leaves for use in the manufacture of brooms has recently become an industry in southeastern Arizona, southwestern New Mexico and the adjacent Mexican states of Sonora and Chihuahua. In recent years annual yields of between 2,500 and 4,000 metric tons of nolina leaves from this region have been processed in plants in the two Mexican states for shipment to broom manufacturers in the southern U.S. (Nabhan and Burns 1985). The sugary pulp of the young, developing inflorescence of some species of Nolina and Dasyllirion has been roasted and eaten (Bean and Saubel 1972) or fermented into a beverage (Havard 1896). Only Beaucarnea recurvata is widely grown

as an ornamental plant, commonly called the pony-tail or elephants' foot palm. Dasyilirion wheeleri is used regionally as a landscape plant in the Southwest, while Calibanus hookeri and various beaucarneae are popular among cactus and succulent collectors.

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Killing Cactus and Other Succulents

There are no questions this month, and I will therefore seek to frustrate this early effort to silence me by offering a few comments. If readers wish to add to or argue about what they read here, please pass it on, even verbally, and we will see that it appears.

Mealybugs: With all the zeal - or is it zealotry - of the tardily converted, I have finally embraced the concept of drenching my plants with cygon in order to maintain at least some control over the dreaded mealybug. Occasional spraying has proven ineffective. Drenching means thoroughly wetting, and that is exactly what I do to the plant, the soil, and the pot. It in effect replaces one round of watering. It seems to be the only way I may be able to stop the root mealties and more especially those cursed ones which hide deep in the crevices of my favorite clusters or succulent rosettes, unseen and unsuspected until the plant, one day apparently healthy, the next day turns brown and collapses with rot and disease.

Which plants do I drench? All the cactus, the euphorbias, and the haworthias seem to profit without harm. Probably other succulents thick in leaf and body would not suffer from a large dose of cygon, but it is a matter of experimenting or seeking the experiences of others. After an almost fatal encounter between an adenium and cygon, I do not use cygon on any of that genus or on any succulent which has thin and/or deciduous leaves. Let someone else try first.

As a substitute in such cases, I trust to spraying with medicinal soap (usually several applications are necessary), while others have had success with an alcohol mist spray. This of course gets only the mealties residing above the soil level. If you feel that a hoped-for absence is not enough to deal with potential soil mealties, all that is left is to unpot the plant and, if there are mealties, wash the dirt off, spray the roots with soap, wash with water, and repot.

How often should the plants be drenched? I would welcome comments but think that ordinarily once or twice a year is enough. You should try to select a time when the plants are neither dormant nor in bloom and do the drenching early in the morning.

So find a large watering can (a 2 gallon size is convenient), put on rubber gloves and boots, make sure the spouse is not sleeping it off under the bench, and pour it on.

Agave juices: Here is a footnote for those many members who have occasion to dig up and dispose of large *Agave americanas*. (Those cute little offsets grow up to audition for *The Little Shop of Horrors*, and it was either them or us.) I dug several the other day and accidentally discovered that of a freshly cut *Agave americana* smarts, one might say, when it comes into contact with bare skin. In fact, it hurts like

h... . I washed my forearms (the part that got it) with water and strong soap, and over the next hour the hurt went down to a combination of hurt and strong itching, then only itching, and then red marks which disappeared in the course of the day.

And all this happening to a person who has little or no sensitivity to at least the usual run of euphorbia sap.

So be careful of agave sap, maybe all agave sap, until one of our resident experts assures us that *Agave americana* is the only villain. Given what the sap does to the skin, I shudder to think of the effect of a drop or two in the eye.

- Bob Kent

FROM THE BOARD.....



WILD ANIMAL PARK

Frank Thrombley presented a proposal for a donation to cover the cost of an irrigation system to be installed in the Desert Garden at the Wild Animal Park. Following an explanation by Frank of the sketch and cost figures, motion was made by Joe Clements that the Board approve a donation to cover the overall plan in the amount of \$494.00. After some discussion, motion was seconded by Jerry Brattmiller and unanimously carried.

Frank indicated that volunteers to help with the labor will be needed. He will coordinate this effort.

MISCELLANEOUS EXPENSE ITEMS

Martin pointed out the transportation expenses incurred by John Pasek on behalf of the Society and asked the Board to consider reimbursing John for his gasoline expense for 1987. Upon motion duly made, seconded and carried that these expenses be reimbursed, the Treasurer was instructed to prepare a check in the amount of \$150.00 and forward it to John Pasek.

Martin advised that Rudy Lime had personally had a succulent bonsai brochure prepared for his use at the Fair at a cost of \$327.00, and that Rudy had inquired as to whether or not the Society would be willing to pay a portion of this expense inasmuch as it contained a membership application for the San Diego Cactus and Succulent Society. Following a brief discussion, motion was made, second and carried that one-fourth of this expense would be paid by the Society.

NEW POLLEN AND SEED EXCHANGE PROGRAMS

Most of us favor protection for endangered species, but we also like to see them in our own collection. Our willingness to pay a high price sometimes tempts illegal collectors to seek quick profits by digging up wild plants. The pressure on threatened plants and habitat could be reduced if more of us propagated our own rare cacti and succulents.

Most of these rare plants must be propagated from seed, and most will not self-pollinate. Cross-pollination requires two plants. However, many collections have only one mature specimen of each rare species, due to the slow growth and high initial cost. The S.D Cactus & Succulent Society is now offering a new pollen exchange program, to help members cross-pollinate their solitary rare plants. If you wish to participate, just list your blooming-sized rare plants, your name, and your phone number on a 3x5 card and post it on the pollen exchange board at the monthly meetings, or send it to my address below. I will coordinate the information periodically on a master list and distribute copies among participants.

If any of your plants on the pollen exchange list have open flowers on meeting day bring it along. Chances are good someone else will bring it too, especially if several people listed it. You can then cross-pollinate at the meeting and take it home with you. Alternatively, you can contact someone on the list who has the same plant species and a near-by phone prefix, and arrange to cross-pollinate at their home or yours when the flowers open. In some cases, the most practical method to exchange pollen will involve a swap of the plants themselves. For example, if members A & B each bring in one species #1 and one sp. #2 in bud, then member A swaps his sp. #1 for B's sp. #2 and each takes home a breeding pair for a month. The fact that each brings in a plant in good health should reassure the other that his or her rare plant will be properly cared for. The next month, each will get back the original plant pollinated.

Breeding pairs must be isolated and hand-pollinated. Each pair can be placed in a wide pot (preferably one with side holes near the bottom, for better ventilation) and covered with Reemay or other fine mesh, with the edges anchored. When the flowers open fully, each pair is hand-pollinated, taking care not to let the wind carry pollen to other pairs. A separate artists' brush can be left with each pair until blooming is completed. The hand-pollinated, isolated plants are then labeled HPI, to distinguish the seedpods later from bee-pollinated, random hybrids.

When seedpods ripen, the seeds are removed, washed free of pulp, dried, labeled, and stored at room temperature in a non-airtight container. Labels should include the approximate count, date, Latin name, and source of parent plant, if known.

Germination requires warmth, light and high humidity. The seedlings must then be protected from algae, fungus, sciara flies, snails, slugs, etc.. Those who lack

equipment, time, or experience for seed-growing, can make arrangements with other members, myself included, to germinate and/or raise their seeds, for a percentage of the seedlings.

If you have surplus seeds, either collected in habitat, purchased from a specialist seed company, or homegrown from HPI plants (no open-pollinated, random hybrids, please), make a list on a separate 3x5 card. Include your name and phone number and the quantity, age, and source of your seeds, and mail it to me, or post it on the new seed exchange board. I will distribute a master list periodically, so participants can arrange swaps. Happy growing!

CARL DYKEMA
4424 Arch St.
S.D. Ca. 92116

POTTING MATERIALS

Pumice, perlite, potting soils, peat moss, sand and compost are available from Carl Dykema. Either drop by Saturday after the monthly SD C&S meeting (6 blocks west of Park and Meade, at 4424 Arch), or call 297-2081 eves, for an appointment.

ABOUT BONSAI - RUDY LIME will be giving instructions on how to train and care for Bonsais. Bring your own plants for individual help.

SHOW SCHEDULE FOR AUGUST AND SEPTEMBER

Aug. 15 & 16	San Diego Fern Society 9th Show	Sat: 2pm-5:00pm	Sun:10am- 5:00pm
Aug. 22 & 23	San Diego Gesneriad Society 11th Show	Sat:Noon-5:00pm	Sun:10am-5:00pm
Aug. 29 & 30	San Diego Turtle & Tortoise Soc. 13th Show	Sat:10am-5:00pm	Sun:10am-5:00pm
Sept. 5 & 6	San Diego Prof. Horticulturist 4th Show	Sat:10am-5:00pm	Sun:10am-4:30pm
Sept.19 & 20	San Diego Bromeliad Society 13th Show	Sat:1pm-4:30pm	Sun:11am-4:30pm
Sept. 26 & 27	San Diego Bonsai Club Fall Show	Sat:10am-5:00pm	Sun:10am-5:00pm



Opposite: **SELENICEREUS GRANDIFLORUS** (*Queen of the night*). West Indies. A climbing tropical plant widely distributed throughout the Caribbean region. Too large for indoor use except in a greenhouse where it requires abundant water and year-round warmth. It is most notable for its huge white vanilla-scented flowers which open at night and die in less than a day. Aerial roots are numerous along the stems and enable the plant to spread across walls and buildings.

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Quail Botanical Garden - Phyllis Flechsig
S.D. Botanical Garden Foundation - Elizabeth Glover
S.D. Floral Association - Verna Pasek
Liaison & Publicity: Cathy & Sandy Frost
Program: Joan Johnson
Jim Dice
Joe Clements

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 p.m. in Room 101, Casa del Prado, Balboa Park. Board of Directors meetings are held after the general meetings. Annual dues are \$8.00 per single member per year, \$2.00 for each additional member of a household within a family. Single copies of Espinas y Flores are 60¢.

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