SOUTH COAST CACTUS AND SUCCULENT SOCIETY

NEWSLETTER

NUMBER 3

MARCH, 2004

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room of the South Coast Botanical Gardens. JERRY KRULIK will be out speaker. He will speak and show slides of his recent trip to Nong Nooch Botanic Gardens, Thailand-World's Most Beautiful Botanic Garden. You will have to see this to believe it! Almost a square mile of perfectly weeded and manicured tropical plants. They have almost all the named cycads, over 2000 of the 3000 palm species, and many, many others including bromeliads, ferns, orchids, cacti, and bonsai. Plus, of course, the sculpture, rocks, ponds, and exotic location in eastern Thailand halfway from Bangkok to the Cambodian border. If you have a problem with the combination of heat, humidity, and hiking, try seeing this presentation instead!!

IMPORTANT!!! PLEASE READ THE FOLLOWING!!!

For those of you who live in the South Bay area, you have probably heard the rumor that the South Coast Botanic Garden might be closing. In late December, the Foundation at the Garden received a memo that stated that due to the State and County's fiscal problems, there was a chance that all of the botanic gardens (except for Descanso Cardens that is run by their Foundation) might be closed as soon as the end of May.

On February 11, two members of the Foundation and Norma Cantafio, executive secretary for the Foundation, met with Don Allen, Assistant Director of the Dept. of Parks and Recreation. We were told by Mr. Allen that the South Coast Botanic Garden was scheduled to be closed the end of June unless the Foundation could come up with money to at least pay the utilities (about \$200,000) and possibly pay the salary for one of the County gardeners. The Trustees of the Garden met and have already started a letter and phone campaign to Parks and Recreation and to Don Knabe, the County Supervisor for this area.

According to an article in the Daily Breeze, the local newspaper for this area, both Parks and Recreation are denying that they would ever close the Botanic Garden. Apparently, both offices have been overwhelmed with phone calls and letters and are now saying that the memo that was sent out was a mistake and that Mr. Allen was probably misunderstood. At the moment, everything is at a status quo, but if things change, all of the Clubs will be contacted for a continued letter and phone campaign.

Dick Kohlschreiber



PLANT-OF-THE-MONTH RULES

- A maximum of three plants may be entered in each category (cactus and succulent).
- Advanced entrants must have had the plant in their possession for at least six months, novices for three months.
- Advanced entrants will receive 6 points for first place, 5 points for second place, 4 points for third place and 2 points for showing a plant that does not place.
- Novice entrants will receive 4 points for first place, 3 points for second place, 2 points for third place and 1 point for showing a plant that does not place.
- At the discretion of the judges there may be up to three third places in a category. If
 plants are not deemed to be of sufficient quality, no third place will be awarded.
- For an entrant to receive points, the entry tags must be collected by the person in charge of record keeping for POM.
- At the annual Christmas party, award plants will be presented to the four highest cumulative point holders in both the advanced and novice classes.

PLANTS OF THE MONTH FOR 2004

	CACTI	SUCCULENTS
March	Ariocarpus	Euphorbia Caupiciform
April	SHOW T	IME
May	Copiapoa	Sedum
June	Crest/Montrose/ Vaaruegate	Crest/Monstrose/ Variegate
July	Cereus and other Columars	Kalanchoe/Cotyledon
August	Favorite Cacti (3)	Favorite Succulents (3)
September	Turbinicarpus	Dwarf Aloes
October	NO MEETIN	G
November	Miniature (3) under 3 inches	Miniature (3) under 3 inches
December	CHRISTMAS	PARTY

	PLAN	r-of-	THE-MONTH TOTA	LS	
CACTUS ADVANCED	FE	B 70T	NOVICE	FEB	TOTAL
Duke	12	15	Guitlean La Fovest	1	1
Fletcher		7			
Hulett		6			
SUCCULENTS	FE		OVICE	FEB	TOTAL
Duke	2	4	Capaldo		4
Fletcher		9	Gardner		10
Hanna	9	15	Hemingway		8
Hulett	5	6	Honore'		3
			Hutchison	6	8
			La Forest	Ь	7
			Lam		3
			Ponce	ь	7
					(7.0

May the luck of the Irish be with you!





CSSA Promotional Article (2004 #1)

There have been some changes recently with respect to CSSA publications as a number of you may already be aware. Russell Wagner is the new editor of the CSSA Journal. Tom Glavich has been interim newsletter editor for November/December 2003 and January/February 2004. Our new newsletter editor Peter Boekenthien will begin his editorship of To the Point with the March/April issue. We are sure that they will continue the high standards set by Myron Kimnach and Carol Clapp, respectively.

Two CSSA sponsored overseas field trips are scheduled for 2004, a Madagascar trip with John Lavranos as tour leader in May and a trip to Chile to visit Copiapoas, etc., in habitat scheduled for October/November. Being able to participate in these trips is one of the many benefits of CSSA membership. Yet another benefit of membership is access to our Seed Depot, which makes available to members seeds of rare succulents at very reasonable prices. This benefit should appeal to all you seed growing aficionados out there. Attendance at our biennial conventions is yet another membership benefit and our 2005 convention in Phoenix in the heart of cactus country, promises to be one of the best ever. More details will appear in subsequent articles as convention plans develop. The CSSA website will also provide updates. For a complete list of other CSSA services to members, see the listing in any issue of the CSSA newsletter. To the Point or go to the CSSA website http://www.essainc.org. Membership information is available at both the above-mentioned sites.

The administration of the CSSA continues to be concerned about membership numbers which have been fairly stagnant in recent years. We are far from the only organization facing this problem. We now have a Membership Committee whose task it is to address this issue. As I have mentioned before, the more members we have the more benefits we can offer our membership. In the coming months the committee will be kicking around a number of ideas for increasing our membership and we are certainly open to any suggestions that might occur to readers of this article. I would definitely appreciate any feedback on the issue of CSSA membership and ways to increase it. Please feel free to contact me by E-mail (b barth a mail utexas edu) or snail mail (602 Terrace Mountain Drive, Austin, Texas 78746).

Thanking you in advance for any input, I remain

Sincerely yours.

Bob Barth Publicity Chair

CSSA Board of Directors

Cacti of the Month - Ariocarpus by David Tufenkian

These popular and unusual cacti are found in the Chihuahuan desert of southern Texas and northern/central Mexico. They are adapted to survive in harsh conditions and are slow growing. Ariocarpus have large tubercles that resemble succulent leaves. Tubercle color can range from dark green to blue-grey-green in color. These are often flattened on their top surfaces and can be furrowed or roughened. Often growing flush with the surface of the ground, they can even shrink back below ground surface during extreme periods of drought. The ability to blend in with the surrounding rocks and their general appearance has led to the common names 'rock cactus,' 'living rocks,' or 'fossil cacti.' Most of the species grow on limestone or soil of limestone origin.

In January of 1993 I saw A. retusus in the wild. At first, they were hard to spot because they blended in so well with the broken limestone rocks which were everywhere. As I mentioned last month, each hill seemed to have a different form! Besides the natural defense mechanism of mimicry, the plants are said to contain a hallucinogen similar to that of the Peyotl cactus

(Lophophora williamsii). This may make them less palatable to predators.

The genus was named in 1838 by the German botanist, J.M. Scheidweiler. He thought the seed pods resembled those of the genus *Aria*. (karpos is the Greek word referring to seed) Thus *Ariocarpus* means plants with seeds like those of *Aria*. One unusual character (for cacti) is that adult plants lack spines. Seedling and juvenile plants have spines but as the plants mature there are no spines present.

Similar to an iceberg, the part of the plant visible above ground is smaller than the very thickened underground roots. Care must be taken when repotting not to damage these roots. Growers often put top dressing around the upper part of the rootstock to help prevent rot and promote good water drainage. In these large rootstocks are extensive systems of mucilage canals. Some of the species are referred to as 'chaute' (the word meaning glue) by natives, who

are reported to use the mucilage to repair broken pottery!

Unlike southern California, the Chihuahuan desert doesn't have winter rain. The hottest time of the year is June, with rain occurring during July, August, and September. The primary growing period is during these rainy months. The flowers that erupt from these plants are beautiful. Flower colors of pink, purple, violet, white, and yellow are found. I have one plant that has had 4" diameter pink flowers! Another bonus is that the flowering period tends to start in late September when many other cacti are not blooming. Flowering signals the end of the growing season. Taper watering at that time! The flowers of the different species arise from different positions on the plant. (see references for more info). The fruits start popping up through the plant's wooly tops the next Spring and Summer.

To grow Ariocarpus, maximal light and temperature are needed. I grow some of my plants outdoors in a cold frame and some in a heated greenhouse. They both seem to do well. I protect them from too much water during the winter but have to water just about every week during the summer. Try and keep water out of the crown of the plant. The wool will get matted down and

you run the risk of rotting the center of the plant.

In the past, imported, field collected plants were available. They are now, of course, illegal to collect. If you do acquire a collected plant from an auction, trade, etc. take off old dead tubercles. Make sure you do this during the growing season and not when the plants are resting.

Many small seedling plants are available. Seedlings are better to grow because they are easier to establish than collected plants, tend to be unscarred, and protect the plants in the wild.

Woody Minnich (CDP nursery) has the best selection and an outstanding personal collection! Seed can be gotten from the CSSA Seed Depot, commercial nurseries, and friends with plants. Grafting of seedlings can accelerate their growth. The plants can then be removed from the grafts when they get larger. Seedlings are not difficult to grow but you must be patient! With good culture (lots of heat, well drained potting mix, water & fertilizer) the plants grow surprisingly well. Flowering size plants can be grown in 5 years. Of course, different species grow differently. Aniocarpus retusus and A. trigonus seem to be the fastest from seed. I have a double headed A. retusus that is 7 or 8 years old with each head over 3 inches in diameter. One hint I've learned is to eliminate sand from our soil mix. This has increased growth tremendously. On the advice of a grower in Oregon that I've been corresponding with, a small amount of pelletized gypsum has been added to soil this year.

I think all members of the genus are fantastic and worth growing. Some people think these plants are ugly but with time they really 'grow' on you. Eileen bought our first one (A. kotschoubeyanus) for 5 or 6 dollars and I couldn't believe she spent that much for 'a little thing only 3/4 of an inch across.' Since she bought the first one she can't say too much when I bring home another one. She'll ask why and I'll make up a feeble excuse about how this one's tubercles are smaller, or rougher, or larger, etc. than others we already have. Look out, they can be addicting (and expensive!)

The genus has been divided into two sub-genera; Neogomesia and Roseocactus. Sub-genus Ariocarpus (Neogomesia); members possess a wooly areole at or near the tip of each tubercle. (Areoles may be absent in the latter three species) The tubercles are obviously divergent. An areolar groove is absent.

A. agavoides, A. retusus, A. scapharostrus, A. trigonus Sub-genus Roseocactus; members have a furrow extending from the base to the tip of each tubercle. The tubercles are crowded at the base of the plant and often have wrinkles, bumps or undulations on their surfaces.

A. bravoanus, A. fissuratus (3 varieties), A. kotschoubeyanus

Species

A. agavoides has elongated tubercles and is named for their resemblance to plants of the Agave genus. They are very small and a mature plant can be 1 or 2 inches across. Larger plants are occasionally seen but in my experience extreme care must be taken not to overwater as they will respond by rotting! The flowers are pink, 1 to 1 1/2 inches across, and the fruits are reddish (other species have pink, white or greenish fruits) The areoles are not on the tip of the tubercle but occur about 1/4 to 1/2 inch from the tip.

A. bravoanus is the most recent addition to the genus and is restricted to a single locality in the Mexican State of San Luis Potosi. The plant is named in honor of Dr. Helia Bravo-Hollis who is well known for her research and writing about Mexican cacti. This species seems most closely related to A. agavoides and A. fissuratus v. hintonii. The plants undergo morphological changes as they mature. Young plants have narrowly triangular tubercles (3 - 4 times longer than wide) with a central, wooly areole that suggests a close relationship to A. agavoides. As plants mature, the tubercles become more squat, the surface of the tubercles acquire an irregular bumpy texture, and some larger individuals have lateral adaxial grooves. These features suggest a relationship with A. fissuratus v. hintonii. While these plants may be the result of field hybridization, they appear to be geographically separated from other species by at least 75 km. Don't expect to see this plant in cultivation for several years.

A. fissuratus has three varieties. The plant is characterized by thickened, flat topped tubercles with a wooly central furrow. Ariocarpus fissuratus v. fissuratus has a distinct lateral wrinkled fissure (adaxial groove) on either side of the central wooly furrow. The surface of these tubercles are irregular and the lateral grooves are interrupted by verrucae (bumps). It is found in the Big Bend area of Texas and along the Rio Grande, southward to central Coahuila. Ariocarpus fissuratus v.lloydi doesn't have these additional adaxial grooves. It has a more restricted distribution; from southern Coahuila to northern Zacatecas. Both of these varieties have bumpy, textured tubercles that are wider than they are long. Mature plants can grow to 5 - 8 inches in diameter.

Ariocarpus fissuratus v. hintonii was discovered in northern San Luis Potosi (in 1981) and described in Bradleya 7. It differs from the previous two varieties in being smaller (up to 3 inches in diameter) and extends the range of the species southward. It is disjunct from the previously described species by at least 150 km. Like A. fissuratus v. fissuratus, the variety hintonii has the adaxial grooves. The tubercles are longer than broad in this variety and the verrucae that cover the surface of the tubercles are fine in texture. Seed is starting to become available but plants are still very scarce.

A. kotschoubeyanus is named for Prince Kotschoubeyi, a member of Russian royalty, for whom the species is named. He paid 1000 francs for one of the first three plants brought to Europe in 1840. These plants are very small in size, and in contrast to others in the genus, grow in loarny ground that often floods (lake bottoms). They have thickened triangular, flat-topped tubercles with roughened surfaces. A plant will bloom at 1/2 inch in diameter (or smaller) and a large specimen is 2 inches across. Brushing with a toothbrush will help keep the plants clean. Otherwise, light brown 'crusts' form on the tubercles. Different forms have been described. The usual flower color is pink or light purple but the variety aibiflorus differs in having white flowers. The tubercles on our plants of var. albiflorus seem to be smaller than 'typical' A. kotschoubeyanus and several older plants have pupped! The variety mcdowelli is smaller than the type and variety elephantidens is larger (3 to even 4 inches in diameter). (Some authors feel these 'varieties' should be listed as forms and not as distinct varieties)

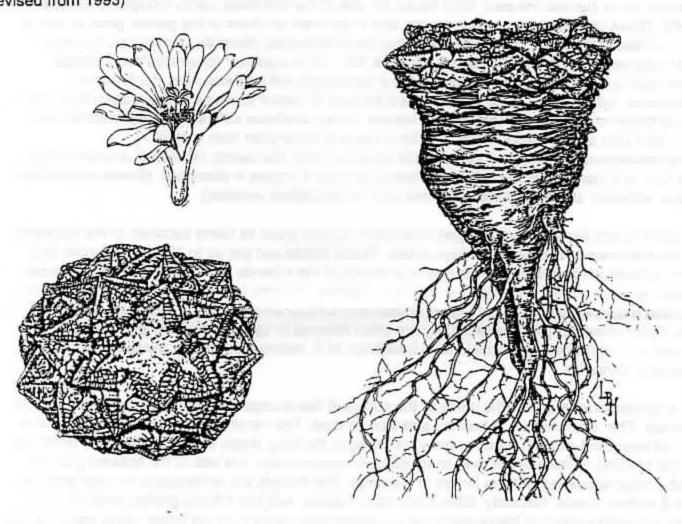
A. retusus (my favorite) has 3-edged tubercles and was given its name because of the similarity of the tubercles to the leaves of Aloe retusa. These plants can get up to 12 inches across and tend to have white flowers. The areole is at the tip of the tubercle but may be absent. Tubercle shape is very variable and has given rise to a number of 'forms.' The form furfuraceus has more blunted tubercles with rounded tops and can have pink to white flowers. I have one plant that has 4 inch diameter pink flowers! They are often referred to by the area from which they were found. ie. A. retusus 'San Rafael form.' Seedlings of A. retusus are readily available from specialty nurseries.

A. scapharostrus is one of the gems of the genus. It has elongate, blunt tipped tubercles without areoles. The tubercles are flat on top and lack furrows. The name comes from the Latin scapha (small boat) and rostrum (beak or prow) referring to the boat shape of the tubercles. In Bradleya 9, the spelling of this species was changed to A. scaphirostris. It is one of the slowest growers and a large specimen is three inches in diameter. The flowers are violet-purple in color and 1 to 1 1/2 inches across. Recently, Miles Anderson (Tucson, AZ) has offered grafted seedlings for sale. I bought several of these and hope to degraft them when they get larger - thus saving a few years!

A. trigonus can get up to 15 inches in diameter. It has elongate, flat topped, unfurrowed tubercles that are sharply pointed. The tubercles tend to curve in towards the center of the plant. The flowers are yellow and about 1 3/4 inches across. Stan Peterson (Shawnee, KS) reported a population that had purplish flowers. Stan runs Aggravation Acres in Kansas and specializes in Ariocarpus. A. trigonus tends to get 'blistering' of the epidermal surface for some reason. When seedlings get up to 3 or 4 inches in diameter it seems to happen.

Literature:

Anderson, A Taxonomic Review of Ariocarpus, Lophophora, Pelecyphora, and Obregonia, (1961 Ph.D. dissertation)
Benson, The Cacti of the United States and Canada, 1982
Bravo-Hollis & Sánchez-Mejorada, Las Cactáceas de México, Volume II, 1991
Cullman, Götz, and Gröner, The Encyclopedia of Cacti, 1986
Hernandez & Anderson, A New Species of Ariocarpus, In Bradleya 10, 1992
Hunt & Taylor, Notes on Miscellaneous Genera of Cactaceae, Bradleya 9, 1991
J. Pilbeam, Cacti for the Connoisseur, 1987
W. Stuppy & N. Taylor, A New Variety of Ariocarpus Fissuratus, In Bradleya 7, 1989
(revised from 1993)



Illustrations of Ariocarpus fissuratus var. fissuratus from Lyman Benson's THE CACTI OF THE UNITED STATES AND CANADA, 1982.

CAUDICIFORM EUPHORBIA

The genus Euphorbia has hundreds of succulent species ranging from less than an inch in diameter to well over forty feet tall. Because of the diversity, it is necessary to place the genus into 'growth form' groups so that the species can be evaluated on similar characteristics. The basic growth forms are; stem type (E. obesa, E. grandicomis, etc...), medusa type (E. esculenta, E. gorgonis, etc...), and caudiciform. At the June meeting, we will concentrate on the caudiciforms, Euphobias with large swollen bases and/or fat tuberous roots.

The key to growing a beautiful caudiciform Euphorbia from a juvenile is patience. Some species develop a caudex much quicker than others, such as *E. persistens* as compared to the much slower *E. cylindrifolia v. tuberifera*. Because the caudex develops while below the soil level, it is necessary to grow the caudex to the desired size before raising. After raising the plant, the growth of the exposed caudex will be greatly reduced, so be patient!

A light, well drained soil mix will promote the development of the base allowing the caudex to expand and tuberous roots to run freely. After raising your Euphorbia, let it become established again before continuing further work on the plant (trimming off roots or stems, etc...). Remember <u>not</u> to trim stems flush with the base. Instead, trim about a half inch from the base and allow the stem to dry out before removal. In most cases, it will fall off by itself without leaving a trace it was there. Note: Be sure to protect your eyes and skin when handling Euphorbias. The white sap will burn your skin and is extremely painful if it gets in your eyes.

Euphorbias generally like bright filtered light to full sun which brings out beautiful colors in the stems. Be careful not to burn your newly raised caudex. Gradually reintroduce the plant to its previous position and put screen around the base as an added precaution. While growing, caudiciform Euphorbias benefit from regular watering and not letting the soil completely dry out provided the mix drains well. The regular use of a diluted liquid fertilizer during the growth season is also beneficial.

Recommended Species:

From Africa E. brevitorta, E. buruana, E. clavigera, E. groenwaldii, E. knuthii, E. microcantha, E. persistans, E. silenifolia, E. squarrosa, E. stellata & E. tortirama.

From Madagascar, E. ambovombensis, E. capsaintemariensis, E. cylindrifolia v. tuberifera & E. tulearensis.

This is just a small sampling of the caudiciform species you may bring in to the mini show. Look forward to seeing some great plants at the next meeting!!

Reference:

Gordon D. Rowley, Caudiciform & Pachycaul Succulents. Strawberry Press, The Euphorbia Journal.

CACTUS AND SUCCULENT CALENDAR OF UP COMING EVENTS FOR 2004

APR. 10&11	SOUTH COAST CACTUS & SUCCULENT SOCIETY SHOW &		
531R1001 T 1100	SALE AT SO. COAST BOTONICAL GARDENS		
	26300 CRENSHAW BL., PALOS VERDES, CA #310-832-2262		
APR. 25	SOUTH BAY EPIPHYLLIUM SOCIETY SHOW AND SALE		
AL I. 25	SAME ADDRESS AS ABOVE INFO. CALL 310-831-1209		
APR 24 & 25	GREEN SCENE PLANT SALE—AT THE FULLERTON ARBORETUM		
MAY 1 & 2	SUNSET CACTUS AND SUCCULENT SOCIETY SHOW AND SALE VETERANS MEMORIAL CENTER, GARDEN ROOM		
	4117 OVERLAND AVE. CULVER CITY, CA. INFO. #310-822-1783		
MAY 16	HUNTINGTON PLANT SALE 10 TO 5 HUNTINGTON BOTANICAL GARDEN 1151 OXFORD ROAD, SAN MARINO, CA 626 405-2160		
MAY 16	EPIPHYLLIUM SOCIETY SHOW AND SALE LOS ANGELES COUNTY ARBORETUM, ARCADIA ,CA. 310-831-1209		
MAY 22 & 23	GATES CACTUS AND SUCCULENT SOCIETY 28th SHOW AND SALE—SAT. 9 TO4 SUN. 9 TO 4 ——SAT. SHOW STARTS AT 1 PM JURUPA MOUNTAINS CULTURAL CENTER, 7621 GRANITE HILL DRIVE GLEN AVON, CA INFO. 909-360-8802		
JUNE 5 & 6	SAN DIEGO CACTUS AND SUCCULENT SOCIETY –SHOW AND SALE BALBOA PARK ROOM 101, SAN DIEGO, CA. INFO.—#619-477-4779		
JULY 1,2,3	CSSA ANNUAL SHOW AND SALE -HUNTINGTON BOTANICAL GARDENS AT 1151 OXFORD ROAD, SAN MARINO, CA.		
	626-405-2160 or 2277 PLANT SALES ONLY ON THE 1ST,		
	THIS IS A FREE DAY		
AUG. 14 & 15	17 TH ANNUAL INTERCITY SHOW AND SALE-LA COUNTY ARBORETUM 301 NO. BALDWIN AVE., ARCADIA,CA. INFO. CALL TOM GLAVICH AT 626-798-2430 or GENE OSTER AT 818-998-9306		
SEPT. 4TH	HUNTINGTON BOTANICAL GARDENS SUCCULENT SYMPOSIUM ALL DAY AT THE HUNTINGTON.		
SEPT. 26	LONG BEACH CLUB ANNUAL AUCTION AT DOMINGEUZ ADOBE 18127 SO. ALAMEDA ST. COMPTON (DOMINGUEZ HILLS) CA.		
OCT. 16 & 17	SAN GABRIEL VALLEY CACTUS AND SUCCULENT SOCIETY SHOW AND SALE— LA COUNTY ARBORETUM ADDRESS ABOVE.		



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* a large community vegetable garden alive with food and comradery – sample fresh produce and talk to avid gardeners about feeding, watering & nurturing vegetables in this desert climate

* a formal garden with plants ideally spaced to create a serene desert-oriented landscape. Islands of color and tropical growth surround turf that is allowed to lie fallow during the warm season in order to conserve water. From this garden, view acres

and acres of unobstructed desert lands.



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The Cactus and Succulent Society of America

Cactus & Succulent Show/Sale

JULY 1, 2 & 3

SALE: Thursday, Friday & Saturday

OPENS: 10:30 am

SHOW: Friday & Saturday

OPENS: 10:30am

(Free Admission to Show and Sale)



Huntington Botanical Gardens 1151 Oxford Rd.

San Marino, CA 91108

For Information: (626) 405-2100