



Espinas y Flores

The Newsletter of the San Diego Cactus & Succulent Society

Affiliated with the Cactus and Succulent Society of America

Volume 45 Number 1

January 2010



Program: Buck Hemenway,
"The Richtersveld, Succulent Wonderland"

Mini Talk of the Month: Stan Yalof,
"Calculating Cacti"

Saturday, January 9, 2010
Casa Del Prado, Room 101
Balboa Park

Annual Winter Show and Sale

February 13, 2010

Newly Enlarged, Judged Show Emphasizing
Novice Competition. Prizes Awarded.

More Vendors Than Ever!

Full Details Within

PRESIDENT'S MESSAGE



Happy New Year! Last year was a great year for SDCSS and I look forward to 2010 being even better. We have an active supportive board, wonderful volunteers and great members. Anything is possible!

I hope all of you enjoyed the holidays. We had our chaos Christmas Eve at the **Miller** house, which included really bad karaoke. My newest son-in-law now knows how bad the women in the family sing. We had fun and I enjoyed a quiet day on Christmas working in my yard.

SDCSS had a very nice Holiday Party in December with the help of some very special people. **Jean** and **Bill O'Daniel** decorated the tables. **Jean**, **Inacia Matheus**, my friend **Diana** and I met at my house the week before and created the centerpieces. **Ruth Hendricks** provided a very good dinner and **Herb Stern** the cork dork was an excellent dispenser of spirits. **Pam Badger** cut up the deserts with style. **Laura**, **Yulia** and **Katya DeMerritt** did a great job passing out tickets at the door.



A Great Party!

Lee Badger gathered some interesting auction plants. **Western Cactus** donated the bare root auction plants and Christmas Cactus' for the tables. **Pam Badger**, **Mary** and **Ed DeLollis** did a great job on the auction. **Rudy Lime's** plant was selected from the Gift Exchange and he was first to choose from the gift exchange plants. **Sharon Wirth** matted the bookplates for our Silent Auction.



Herb Stern

Tom and **Lee** did a great job providing Gift Plants for the party. **Pam Badger** did a great job of running the drawing. Even though we came

up short due to my not notifying a vendor, the plants were selected with care and joy. Those that have red tickets left, please bring them to the January meeting. We will do the drawing at the beginning of the break.

Treasurer **Ken Blackford** spent most the party working and I truly appreciate his efforts. Be sure to thank him for the great job he does.

Our Volunteer of the Year is **Michelle Heckathorn** who received a certificate and \$25 in plant bucks. **Michelle** works the plant exchange table at our regular meetings, runs a cash register at our sales, has given Plant of the Month talks on Haworthia and Sansevieria and takes great pictures of the plants we show. She is a true asset to the organization.



Chris and Michelle

We had our special drawing for Volunteers. The winners were **Joe Kraatz**, **Chris Worton** and **Steve Harris**. It was agreed by the members present that we should do it again next year.



Joe, Chris and Steve

Lots of people helped with clean up since that was how the centerpieces were taken home. Thanks to all of you for your support.

We have lots of exciting things coming our way in 2010. Our January meeting will start us out looking for lots of volunteers for the February Show and Sale. We have more vendors than will fit inside room 101 so we will be setting up part of the sales area in the patio outside the room. We will need extra security and support for this area. If you have a 10 x 20 canopy or a pop up we can borrow for the event please let **Tom DeMerritt** know.

The Bus Trip to the Huntington still has some room. See the announcement in last month's EyF for complete details. Please contact me if you are interested in going.

I look forward to seeing you at the meeting.

Chris Miller
27 December 2009

PROGRAM

"The Richtersveld, Succulent Wonderland" Buck Hemenway

Experience those unbelievable plants that only grow in one of the driest places on earth. Five days of intense exploration of that magical place.

Buck and Yvonne Hemenway are deeply involved in the succulent world. He is President of the San Gabriel Valley C&SS and she publishes the newsletter. He is on the Board of Directors of Gates C&SS and CSSA among other green related organizations. They own the **Prickly Palace** which is a wholesale grower of Cactus and Succulents. Look them up at www.pricklypalace.com



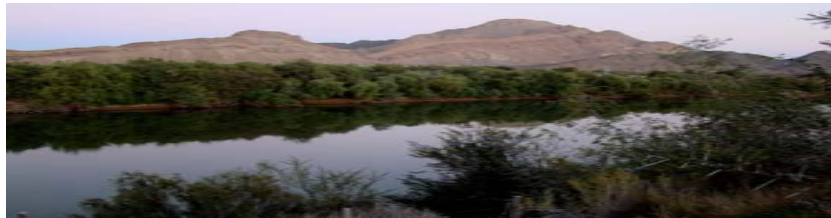
Buck and Yvonne, by BH



Tromotriche pedunculata ssp. longipes , by BH



Aloe gariensis, by BH



Dawn on the Orange River by BH, edited

MINI TALK OF THE MONTH

"Calculating Cacti" Stan Yalof



Athens, 523 BC

Posters were splashed in the agora proclaiming "Come one, come all, **Pythagoras** had solved the riddle of the 'Golden Rectangle' using insights from musical scales."

The sculptor **Borgronius** shook his head, skeptical that such an aesthetic decision could be expressed as a formula. It had long been an intuitive tenet that a work of art, building or sculpture was particularly pleasant and aesthetically golden if the width to height was 5 to 3, a ratio of about 1.67 to 1 (More accurately 1.618::1). "Hmm, I wonder if there is some logic that this Mathematikoi has discovered?"

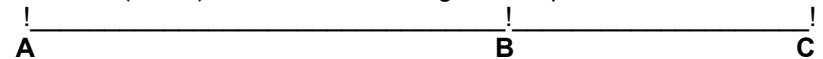
Pythagoras was hoisted to the stadia. "Is there a mathematical basis for the beauty of the golden rectangle? We can find our answer perhaps in a musical string. **Orpheus**, may I borrow your lyre?"

Handing it over, "Treat it with care, its bindings are fresh."

"Let us call a total string length X (X = AC). If you were to halve the length of the lyre string by pressing on its center, the sound

would double, climbing an octave. This is a ratio of the whole to a half, or 2 to 1." The crowd hummed in agreement.

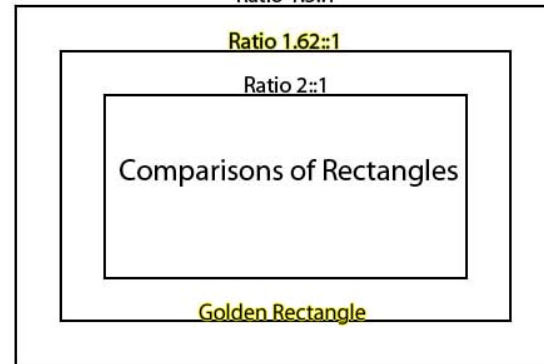
Continuing, "Now here is an oddity. If it were pressed in such a way along the total length X at B, with a length AB which we shall arbitrarily value as 1 (AB=1), then the lesser length BC equals X-1.



"Now consider two ratios: the total X to the greater part 1 and the greater part 1 to the lesser part (X-1). Set them equal: $X/1 = 1/(X-1)$. Factoring we get $X^2 - X = 1$. What number do you lads think will satisfy that equation, Hmm?"

Orpheus cried out, "The Golden Ratio, 1.618!"

Borgronius was amazed, struck by his awakening vision of nature as a mathematician. A murmur of agreement swept through the crowd.



Orpheus posed a question. "I must go down to Hades to rescue **Eurydice**. I plan to strum some hot licks on my lyre to charm the underworld management."

"But By Zeus, **Orpheus**, this has never succeeded in the past."

"But maybe if I pluck at the Golden Ratio ...?"

The crowd carried **Orpheus** on their shoulders to the sulphurous opening to the underworld and cheered him as he entered, strumming only liquidly beautiful golden chords. They never expected to see him again.

Later, **Pythagoras** greeted **Orpheus** as he was about to emerge (alas, without **Eurydice**) when poof, they found themselves transported through time to San Diego. It was a great culture shock: noisy metal monsters encapsulating people, foreign dress without a decent toga ... They sought calm and refuge from the surrounding oddities and entered a stationery store. Suddenly, speechlessly, delightedly, **Pythagoras** pointed to a shelf, to a familiar object. "Look, look **Orpheus**." It was a package of cards, 5X3 cards, whose ratio is $5/3=1.67$, the Golden Ratio!

12th Century AD, Pisa, Italy

Italian mathematician **Fibonacci** (Fee bo knat chee) introduced Arabic numbers, the arithmetic of position, and modern accounting. As a recreation, he calculated how many generations and offspring would be produced starting with a single pair. From the 1st parents, a second pair was birthed which in a generation could breed. The number of breeding pairs per generation were 1, 1, 2, 3, 5, 8, 13, etc. Note that each number in this series is the sum of the preceding two. And the ratio of a number and its preceding number approaches 1.618, the golden ratio (There is an angle associated with this ratio, the Golden Angle, Φ , which equals 137.5 Degrees¹. On a clock face, this would be equivalent to 22.9 minutes².

Plants and the Golden Ratio, Escondido 2011

The rain was very welcome. The large palm outside my window showed clockwise (CW) and counter-clockwise (CCW) leaf patterns, standing out with their wetness. You can easily see similar patterns on pineapples, sunflowers, honeycombs, and many cacti as illustrated in the following picture. For plants, this pattern is initiated in the generative tip at the growth center. For cacti, this tip (the apical meristem) continues to grow centrally upward or outward. Every Φ angle the tip buds off a side bud. The next side bud will be 2Φ , and a bit higher than 1Φ . As the plant grows and swells, the older buds move outward. This develops the phyllotactic pattern on the plant body.

Mammillaria and Opuntia have helicoidal patterns with $\Phi = 137.5$ deg. A Mammillaria seedling will split off a bud every 137.5 degrees or 22.9 minutes. Thus, there will be buds at 0, 22.9, 45.8, 67.7, etc. minutes. Notice that there are less than 3 buds per circumference. Note

also that as we clock second times around past zero the buds are displaced 7.7 minutes. Each time around there is an additional 7.7 minutes displacement.

The line through these displacements is the beginning of a pattern.

These Mammillaria buds are our future areoles. But there are only 3 baby areoles per circumference at the tip and many more at the belly. How does this increase work? Like this. The band of the top areoles sinks into the spaces of the lower band which shoves below until we have a filled band. This band



will nest with the underlying band, displaced by 7.7 minutes. Tracing along the various 7.7 minute displaced areoles gives the helicoidal pattern, an artifact of the action of Φ at the growing tip. It is also the closest and most efficient packing of areoles.

Ribbed barrel and columnar cacti are 0.5 to 1.0 degree (0.08 to 0.167 min) larger. Over and under these limits, the pattern disappears³. The number of ribs tends toward Fibonacci numbers or very near them. For example, in *Ferocactus latispinus* 49% had 13 ribs, 42.2% had 8 ribs, and 6.8% had 5 ribs.

The symmetry of Φ applies to trees, flowers, snails, and the work of many artists.

1) The golden angle is obtained with the relationship $1/(1.618 + 1) = 360 \text{ deg./}\Phi$, where $\Phi = 137.5$.

2) $(137.5/360) \times 60 \text{ minutes} = 22.9 \text{ minutes}$.

3) "Functional Morphology and Evolution of Stem Succulence in Cacti", A. Altosor & E. Ezcurra, *Journal of Arid Environments* 53 (2003), pp. 557-567.

WINTER SALES HELPERS TRAINING— REQUIRED!

We will hold training for cashiers, scanners and boxers at the January meeting. If you are interested in volunteering for these jobs at the Winter Sale please be at the meeting by 12 so you can attend the training. **Jim DeForest** and **Cathy Clark** have written a new procedure that will help standardize the process and make training easier. Training will begin at 12 sharp so please adjust for parking so you get there on time. If you have any questions call **Chris Miller**.

ESPINAS Y FLORES GOING ELECTRONIC!

The newsletter is available for viewing and downloading at the Club website, www.sdcss.net. Take a look! As a cost-savings measure, all members are being urged to accept an e-mailed version of the newsletter – the cost of color printing and mailing far outweigh the annual membership fee. To cancel your hard copy of the EyF, contact the membership chairperson or the newsletter editor. You will be notified by email of the availability of your next electronic issue, the speakers at the next meeting, and other significant announcements. The electronic version will often contain additional color images, but its length will be kept below about 1.5 MB. It's probably too long for convenient downloading via dial-up internet connections but OK for cable or DSL connections.

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SDCSS HELP WANTED ADS

If you are looking for a way to help here are some ideas:

| | | |
|--|---|---|
| <p>Winter Show: Need volunteers for security, meals, greeting, set up and clean up.</p> | <p>Cashiers, Scanners and Boxers: For Winter show. Sign up this month. We will train at the January meeting.</p> | <p>Trophy Sponsorship: We are in the process of updating trophies and are looking for donations to support the process.</p> |
| <p>Education Chair: For Summer Show: Put together a program for education during the summer show</p> | <p>Membership Committee Members: To support the membership chair in providing membership services.</p> | <p>Ride Coordinator: Point of contact for those members who need a ride to meetings and those willing to give rides.</p> |
| <p>Volunteers for WAP Gardens: For garden maintenance, new area development, plant identification and to work in the greenhouse</p> | <p>Trip Coordinator to coordinate trips, arrange bus contracts, destination requirements, etc.</p> | <p>Audio Visual Person Duties to include organizing existing equipment, setting up at meetings and advising on requirements.</p> |

Ride Needed! Lyn Olsson needs a ride to the next meeting! She lives in North Park, east of Balboa Park, on Gregory Street close to McKinley Elementary and St. Augustine High School. Somebody! Please call her at (619) 281-1628 or e-mail her at lolsson@mail.sdsu.edu

Contact **Chris Miller** if you would like to volunteer

The due date for submission of all material to be published in EyF will be the second-to-last Saturday of the month preceding the next monthly meeting. All submissions are to be made to the Editors. Please e-mail your articles to **Paul & Carol Maker** at pdmaker@roadrunner.com.

UPCOMING EVENTS

Jan 9: SDCSS Monthly Meeting

Feb 13: SDCSS Winter Show and Sale

Mar 20: "The Incredible Staging Workshop, Plant and Potters Sale" featuring staging exhibitions by Larry Grammer and John Luhnnow. The Caro Desert Nursery, 9607 East Avenue S12, Littlerock, Ca 93543. 661-456-0787. Visit www.CaroDesert.com.

Apr 10&11: South Coast Cactus and Succulent Society Show and Sale at the South Coast Botanical Gardens, 26300 Crenshaw Blvd., Palos Verdes, CA. For info. call 310-832-2262

Apr 17&18: Green Scene Plant Sale at the Fullerton Arboretum, 1900 Associated Road, Fullerton, CA 92831

May 1&2: Sunset Cactus and Succulent Society Show and Sale at Veterans Memorial Center, Garden Room, 4117 Overland Ave., Culver City, CA. For info. call 310-822-1783

May 2: South Bay Epiphyllum Society Show and Sale, 9am to 4pm, at South Coast Botanical Gardens. For info. call 310-833-6823

May 15: Gates Cactus and Succulent Society 30th Show and Sale, 9 to 4, Jurupa Mountains Cultural Center, 7621 Granite Hill Drive, Glen Avon, CA. For info. call 909-360-8802

May 16: Huntington Plant Sale, 10 to 5, Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA. For info. call 626-405-2160

May 16: Epiphyllum Society Show and Sale, Los Angeles County Arboretum, Arcadia, CA. For info. call 310-670-8148

May 22&23: Central Coast Cactus & Succulent Society Annual Show and Sale, 10-4, Ludwick Center, 864 Santa Rosa, San Luis Obispo, CA. For info. call 805-237-2054, www.centralcoastcactus.org

June 5&6: SDCSS Summer Show and Sale

June 12&13: Los Angeles Cactus and Succulent Society Show and Sale, Sepulveda Garden Center, 16633 Magnolia Blvd., Encino, CA. For info. call 818-363-3432

June 25-27: CSSA Annual Show and Sale, Huntington Botanical Gardens, 1151 Oxford Road, San Marino, CA. For info call 626-405-2160 or 2277. Plants sales June 25-27, show is 26-27. Free to the public.

SAN DIEGO CACTUS & SUCCULENT SOCIETY

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President: Chris Miller
Vice President: Peter Walkowiak
Secretary: Candy Garner
Treasurer: Ken Blackford

DIRECTORS

Susan Hopkins
Jean O'Daniel
Steve Harris
Don Hunt
Jerry Garner
Cathy Clark
Mark Fryer (ex-President)

STANDING COMMITTEES & SUB COMMITTEES

Education, Conservation & Exhibits

Conservation: Joe Kraatz & Herb Stern
Brag Table: Candy Garner
Plants of the Month: Don Hunt
Summer Show: Peter Walkowiak
Winter Show: Peter Walkowiak
Historian: Terry Parr
Library: Don Hunt, Chris Miller, Jeanette Dutton, Steve & Kathy Harris
Exchange Plants & Seeds: Michelle Heckathorn & Sara Schell

Sales, Meetings, Plant Sales & Supplies

Membership: Collette Parr
Mailing: Jean & Bill O'Daniel
Annual Sales: Chris Miller & Joe Kraatz
Auction & Holiday Plants: Lee Badger & Tom DeMerritt
Monthly Plant Sales: Joe Kraatz & Lynn Elliott
Monthly Supply Sales: George & Jerry Plaisted
Benefit Drawing Table: Collette & Terry Parr
Publicity: Tom DeMerritt & Joe Kraatz
Programs: Kelly Griffin
Reception: Susan Hopkins & Judy Walkowiak
Monthly Regalement: Rudy Lime & Susie White
Picnic Regalement: Laura & Tom DeMerritt
Hospitality: Sara Schell

Liaison

Balboa Park Desert Garden: Susan Hopkins
CSSA Affiliate Rep: Peter Walkowiak
SD Botanic Garden: Phyllis Flechsig
SD Botanical Garden Foundation: George Plaisted
SD Floral Association: Jeanette Dutton
SD Wild Animal Park Baja & Old World Gardens: Chris Miller

Editors: Paul & Carol Maker, pdmaker@roadrunner.com

Webmaster: Tom Stiko

Web Site: www.sdcss.net

Please address correspondence to:
The San Diego Cactus & Succulent Society
P.O. Box 33181
San Diego, Ca 92136-3181

WINTER SHOW SCHEDULE, AWARDS, AND RULES

SCHEDULE FOR SATURDAY FEBRUARY 13, 2010

| | |
|--------------------|---|
| 8:00am to 10:00am | Set up, BRING IN YOU PLANTS! |
| 9:00am to 10:00am | Sales open to members only |
| 10:00am | Sales open to public |
| 10:00am to 11:00am | Judging (show area closed to all except the judges) |
| 11:00am | Show Opens |
| 4:00pm | Show and Sales Close |

AWARDS

NOVICE (an exhibitor who has won 10 or fewer blue ribbons in a recognized show)

| | |
|--------------------|--|
| Best Cactus | 25 PB's (Plant Bucks redeemable at SDCSS sales tables) |
| Best Succulent | 25 PB's |
| Best Winter Grower | 25 PB's |

ADVANCED (an exhibitor who has won more than 10 blue ribbons in a recognized show)

| | |
|--------------------|---------|
| Best Cactus | 25 PB's |
| Best Succulent | 25 PB's |
| Best Winter Grower | 25 PB's |

BEST OF SHOW (Novice or Advanced) 50 PB's

First, Second, and Third Place Ribbons will be awarded in all categories for both Novice and Advanced entrants.

RULES

- 1) Participants must be members of the SDCSS.
- 2) Entries must be in the possession of exhibitors for at least six months. Plants must be clean, (no weeds or debris), healthy (no insects, disease or pesticide odor) and dry. Plant labels should be removed or hidden. Exhibitors are responsible for placing entry cards with plants prior to judging. The show committee may remove any entry that distracts from or jeopardizes the health of other entries.
- 3) Plants must be individually potted specimens except category #63, Dish Gardens.
- 4) Depending on number of entries, prior to judging, the show committee may combine or divide categories and rearrange entries. The show area will be closed during judging. Plants must remain until end of show.
- 5) Entries are judged on:
 - a) Condition, size, maturity and difficulty of culture: 70%
 - b) Staging - pot, top dressing, arrangement, cleanliness: 25%
 - c) Nomenclature: 5%Awards are given only if the judges believe they are merited, and all decisions are final.
- 6) The SDCSS and show committee will take due care to safeguard entries but cannot be held responsible for damage to, or loss of, plants and property.

DIVISION 1: CACTACEAE

North American Cacti

- 1) *Ariocarpus*, *Astrophytum*
- 2) *Aztekium*, *Pelecyphora*, *Epithelantha*,
Strombocactus, *Obregonia*,
Encephalocarpus, *Ortegocactus*
- 3) *Coryphantha*, *Escobaria*, *Neobesseya*,
Neolloydia, *Luechtenbergia*
- 4) *Gymnocactus*, *Turbinocarpus*, *Stenocactus*
- 5) *Echinocereus*
- 6) *Echinocactus*, *Ferocactus*, *Hamatocactus*
- 7) *Mammillaria*; hooked spines
- 8) *Mammillaria*; straight spines
- 9) *Thelocactus*, *Sclerocactus*, *Pediocactus*

South American Cacti

- 10) *Blossfeldia*, *Frailea*, *Uebelmannia*

- 11) *Buiningia*, *Discocactus*, *Melocactus*
- 12) *Copiapoa*
- 13) *Echinopsis*, *Lobivia*
- 14) *Eriosyce*, *Neochilenia*, *Neoporteria*,
Pyrrhocactus, *Horridocactus*
- 15) *Gymnocalycium*
- 16) *Notocactus*, *Parodia*, *Acanthocalycium*
- 17) *Rebutia*, *Sulcorebutia*, *Weingartia*
- 18) *Matucana*, *Submatucana*, *Oroya*, *Borzicactus*

Other cacti

- 19) Ceroids, columnar types
- 20) Opuntiodes
- 21) Epiphytic cacti
- 22) Variegates, crests and monstrose
- 23) Seed grown by exhibitor

DIVISION 2: NON-CACTUS SUCCULENTS

Aizoaceae

- 24) *Lithops*, *Conophytum*
- 25) *Pleisopilos*, *Titanopsis*,
Dinteranthus, *Faucaria*
- 26) *Mestoklema*, *Aloinopsis*, *Trichodiadema*

Asphodelaceae

- 27) *Aloe*
- 28) *Gasteria*
- 29) *Haworthia*, *Astroloba*

Crassulaceae

- 30) *Cotyledon*, *Tylecodon*
- 31) *Crassula*, *Kalanchoe*
- 32) *Dudleya*
- 33) *Echeveria*
- 34) *Pachyphytum*, *Graptopetalum*, *Tacitus*
- 35) *Aeonium*, *Sedum*

Euphobiaceae

- 36) Leaves, no spines: *decaryi*,
capsaintemariensis, *bupleurifolia*
- 37) Leaves and spines: *milii*, *gottlebei*,
viguieri, *unispina*
- 38) No leaves or spines: *caput-medusa*,
inermis, *esculenta*, *obesa*
- 39) Spines, no leaves: *stellispina*,
horrida, *ferox*, *stellata*, *clavigera*
- 40) *Monadenium*, *Jatropha*, *Pedilanthus*

Geraniaceae

- 41) *Pelargonium*
- 42) *Sarcocaulon*

Apocynaceae

- 43) *Adenium*
- 44) *Pachypodium*

Asclepiadaceae

- 45) *Fockea*, *Petopentia*, *Raphionacme*
- 46) *Caralluma*, *Hoodia*, *Huernia*, *Stapelia*

Agavaceae

- 47) *Agave*
- 48) *Nolina*, *Yucca*, *Beaucarnea*, *Calibanus*

Asteraceae

- 49) *Senecio*
- 50) *Othonna*

Bromeliaceae

- 51) *Abromeitiella*, *Dyckia*

Burseraceae

- 52) *Bursera*, *Commiphora*

Didiereaceae

- 53) *Alluaudia*, *Didierea*

Dracaenaceae

- 54) *Sansevieria*

Moraceae

- 55) *Ficus*, *Dorstenia*

Passifloraceae

- 56) *Adenia*

Portulacaceae

- 57) *Avonia*, *Anacampseros*, *Ceraria*

Caudiciforms, Pachycauls, Geophytes

- 58) *Bombax*, *Cucurbits*, *Fouquieria*,
Dioscorea, *Pachycormus*

Other

- 59) Bulbs
- 60) Variegates, crests and monstrose
- 61) Succulent bonsai
- 62) Seed grown by exhibitor
- 63) Dish Gardens