

CACTUS COURIER

Newsletter of the Palomar Cactus and Succulent Society
The North San Diego County Cactus and Succulent Society

Volume 62, Number 3

March 2016

NEXT MEETING

Saturday, March 26th

**Park Ave. Community Center
210 Park Ave., Escondido**

Brag Plants, Exchange Table, Benefit Drawing - as usual!

11:00am – 3:00pm

MEMBERSHIP RENEWAL

**If you have not yet renewed
your membership, it's time!
To continue as a member and
to receive the next newsletter you
MUST RENEW YOUR MEMBERSHIP!**

**Please do so at the March meeting,
or mail it in to Leon at the address
on the Membership Form by 3/31.
See page 11 for form and address.**

IN THIS ISSUE

| | |
|---|----------|
| Spring Member Festival | p. 1-3 |
| Refreshments | p. 3 |
| Brag Plant Winners | p. 4 |
| News of the Safari Park Gardens | p. 5 |
| Lifetime Member Award | p. 6 |
| Club T-shirt Contest | p. 6 |
| Save the Date | p. 7 |
| New Feature – Brag Photos | p. 8 |
| Garden Tour, Conference flyers | p. 9-10 |
| Club Misc. Info | p. 11 |
| Day With the Succulent People by Stan Yalof | p. 12-13 |

Spring Member Festival

Saturday, March 26, 2015 11am to 3:00pm

- We are once again having our Spring Member Festival to showcase the many members who are just starting out, and those who have been doing it for a while as a relaxing hobby.
- The Festival will take place in our usual meeting room. You will be able to wander freely between activities.
- The judging and workshops will run consecutively so you don't have to miss a thing.

WE WILL HAVE THE FOLLOWING:

- Member Plant Sale
- Plant Show
- Workshops
- Refreshments



Click here to visit our webpage:

www.palomarcactus.org

We're on Facebook!

Spring Member Festival – continued

MEMBER PLANT SALE

- Do you have some extra potted plants you would like to sell?
We do the selling for you; just bring in clean, rooted, attractive potted plants.
- Bring items in between 10:00am - 10:45am. They MUST be labeled, priced, and in place by 10:45am.
- Space may be limited! Tables are 6" long. Do you need ¼, ½, or a full table?
To be guaranteed space you MUST CONTACT BRITA IN ADVANCE at eventcoordinator@palomarcactus.org.
- You will need to double tag your plants, which means one plant tag has the name of the plant and the second tag must have your name and the price. We will have someone to help with the plant names.
- Tip for pricing your plants – what would you pay for it?
- If you are going to donate plants to the club to sell, the name on the tag must be PCSS.
- If you have plants that are usually sold as cuttings that is fine. Attach the tags with rubber bands or string.



PLANT SHOW

- Novice and Intermediate this Show is primarily for you, to help you gain confidence to enter our October show. If you felt intimidated and didn't enter any plants last October, this is the time to take the plunge and show a few plants. Bring your favorite plant(s) to show just like you do for the monthly Brag Table. You may bring Brag Plants that you have already shown.
Advanced – Of course we want to see your plants, too! They inspire and encourage the rest of us.
- Like our Brag Tables, each level will be at their own tables and will be judged like the monthly Brag Plants, except participants will receive double the points. Also, each plant earns two points, winner or not!
- **YOU MUST bring in your plants between 10:00 - 10:45am.**
Entries must be entered and labeled by 10:45am. No late entries accepted.
- If you need help identifying your plants please come early. There will be someone to help you as needed.
- As the judges go along they will discuss what makes a plant a good show plant, and they will provide practical information about plant presentation.
- **Show Plants - Let Brita know approximately how many plants you plan to bring so we have enough tables set up – eventcoordinator@palomarcactus.org.**



WORKSHOPS

- **"POT BASICS"** – Choosing a Pot – Benefits of Different Types, and How to Pot – By Jerry Gardner
- **"REPOTTING & PROPAGATING SUCCULENTS"**
– What to Do with Overgrown or Leggy Plants, and How to Divide Succulents. – By Kienan Parr
- **"SOIL"** - Types of Soil & Fertilizers for Succulents, and How to Mix Your Own Soil
- By Peter Walkowiak



WOULD YOU LIKE TO VOLUNTEER?

We can't do it without you. Come enjoy the fun and camaraderie. If everyone helps a little we'll have a great time. We need help with:

- ~ Setup and take down ~ Assist at show or sales areas ~ Kitchen
~ Assist at workshops ~ Assist at sales table (assistant cashier or boxing)

Please let Brita know as soon as possible if you think you'd like to Volunteer, even if you're not sure yet - Brita @ eventcoordinator@palomarcactus.org.



SHOW PLANT CATEGORIES

CACTUS

- 1) **North American** – Ariocarpus, Astrophytum, Mammillaria, Echinocereus, Ferocactus, Echinocactus, Gymnocactus, Mammillaria, Opuntia, Thelocactus, . . .
- 2) **South American** – Copiapoa, Eriosyce, Gymnocalycium, Notocactus, Lobivia, Rebutia, Rhipsalis, . . .
- 3) **Monstrose, Crests and Variegates** – All regions

SUCCULENTS

- 4) **Leaf Succulents** – Adromischus, Aeonium, Agave, Aloe, Cotyledon, Crassula, Dudleya, Dyckia, Echeveria, Gasteria, Graptopetalum, Graptoveria, Haworthia, Kalenchoe, Mesemb (Lithops, etc.) Sansevieria, Sedum, Sedeveria, Senecio, Stapelia, . . .
- 5) **Stem Succulents** – Adenium, Bombax, Bursera, Crassula, Euphorbia, Fouquieria, Hoodia, Monadenium, Othonna, Pachypodium, Pelargonium, Tylecodon, . . .
- 6) **Root Succulents** – Adenium, Bulbs, Euphorbia, Fockea, Pentopentia, Mestoklema, Ipomoea, Raphionacme, Pachypodium (*bispinosum* & *suculentum*), Senecio, . . .
- 7) **Monstrose, Crest and Variegates** – All types
- 8) **Bonsai** – all succulent types
- 9) **Dish Garden** – Cactus and Succulents

Every category has many more genera than listed above; those listed are examples of plants in that category. Some genera are in multiple categories such as Euphorbias. If you have questions regarding your plant ask Peter or Annie.

REFRESHMENTS

We could use main dishes, sandwiches, fruit, finger food, etc. Showing and selling plants works up an appetite so we need a bit more food than at our regular meetings. The following people have already signed up:

| | | | | | |
|----------------|---------------|------------------|-----------------|---------------|------------------|
| Stan Yalof | - Salad | Evelyn Voth | - Salad | Neila Rybicki | - Broccoli Salad |
| Annie Morgan | - Pea Salad | May Fong Ho | - Bread | Don Nelson | - Bread |
| Ginny March | - Dudley Bars | Robert Kopfstein | - corn Pudding | Paula Deubig | - Dip & Chips |
| Nancy Dunn | - Baked ? | Deborah Pearson | - Dessert | Brenda Deubig | - Cookies |
| Ruta Caldwell | - Crumb Cake | Jean O'Daniel | - Bottled Water | Julie Slater | - ? |
| Nell McChesney | - ? | | | | |

Which of Your Beautiful Plants Will You Enter in the Show?



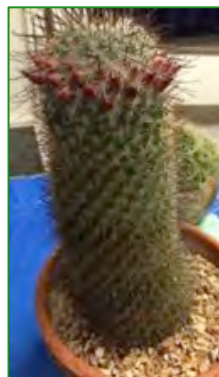
FEBRUARY BRAG PLANT WINNERS

NOVICE CACTUS

- 1st Stasi Kubrock Neoporteria nidus senilis
- 2nd David Buffington Mammillaria plumosa
- 2nd Don Nelson Cereus Peruviana monstrose
- 3rd Mike Nelson Mammillaria longiflora



Nepoporteria nidus senilis



Mammillaria longiflora



Mammillaria plumosa

INTERMEDIATE CACTUS

- 1st Mike Regan Mammillaria spinosissima



Mammillaria spinosissima

NOVICE SUCCULENT

- 1st Christine Hays Sansevieria parva
- 2nd Don Nelson Senecio scaposus
- 3rd Jeannine Zonana Echeveria harmsii



Sansevieria parva



Senecio scaposus

INTERMEDIATE SUCCULENT

- 1st Robert Kopfstein Pachypodium brevicaule
- 2nd Robert Kopfstein Euphorbia fruticosa
- 3rd Robert Kopfstein Puya spathacea



Advanced Dish Garden
Phyllis Flechsig



Echeveria Harmsii

NOVICE DISH GARDEN

- 1st Don Nelson
- 2nd Deborah Pearson
- 3rd Stan Kubrock

ADVANCED DISH GARDEN

- 1st Phyllis Flechsig

NOVICE PLANT OF THE MONTH

- 1st Neila Rybicki Dudleya pulverulenta
- 2nd Christine Hayes Dudleya species
- 3rd Mike Nelson Dudleya cymosa



Euphorbia fruticosa



Novice Dish Garden
Stan Kubrock

INTERMEDIATE PLANT OF THE MONTH

- 1st Robert Kopfstein Dudleya anthonyi
- 2nd Robert Kopfstein Dudleya candida
- 3rd Robert Kopfstein Dudleya species

ADVANCED PLANT OF THE MONTH

- 1st Phyllis Flechsig Dudleya species



Dudleya cymosa

Dudleya candida



Dudleya species



Novice Dish Garden
Don Nelson



Dudleya pulverulenta
Dudleya species



Dudleya anthonyi

News from the Safari Park Gardens - by Susan LaFreniere

SDCSS President Kelly Griffin came to help identify some of the aloes planted in the Old World Garden and some of those from the Dick Henderson donation that we received early last year. It is always a great learning experience for us when he comes. We thank Kelly for his time and expertise.

The OWG Accession project is moving right along. Over 200 plants have been tagged and catalogued. We expect to put at least 50 tags in each month, the new plants that have recently gone in and portions of those planted long ago.

The February speaker for PCSS was Panayoti Kelaidis, Curator of the Denver Botanic Gardens. Peter Walkowiak brought him to the Safari Park gardens and Panayoti was full of excitement and compliments. He had never visited before and thought the gardens were very well laid out. He encourages the San Diego Zoo Global to highlight them and make them a destination for visitors to see just like Denver and Huntington Botanical Gardens.

The park's Volunteer Office has been charged with focusing more on the Park's plants this year. To help with that we have developed Talking Points for volunteers to use with visitors to the garden. More educational material will also be created for both gardens.

Aloe blooms have hit their peak. Next up, we anticipate WEEDS in the weeks to come. If you would like to relax amid the plants and views of the gardens, please join us. Donations are welcomed, too. Contact us at info@palomarcactus.org.



New Lifetime Member Award – Erik Gronborg

The Board is pleased to announce our latest PCSS Lifetime Member Award to Erik Gronborg. Erik joined PCSS in 1981 and has been a very dedicated member. He has a deep interest in plants and is a creative horticulturist. Over the years he has contributed much to our club, in addition to the hobby overall.

Over the years Eric has done many presentations for our club, six full programs and nine Plant of the Month presentations. They are always exceptionally detailed with excellent photos. He also brings in interesting and unusual plants to share for Plant of the Month examples, which help give a broader perspective of the plant being discussed.

Eric's garden philosophy is based on his artistic competence and his homogeneous use of xerophytic plants. His garden has been on numerous garden tours and has many of his own artistic creations included throughout. It is a fascinating treat to wander through and takes multiple passes to enjoy and see everything.

Eric is also a world-renowned artist and has exhibited at the Mengei International Museum in Balboa Park, and other museums. He has also consulted on art around the world. If you Google Erik you will find over five pages of entries, including many, many images of his creative and beautiful ceramic works.

Congratulations Erik!



CLUB T-SHIRT ART CONTEST - DEADLINE April 23rd

Over the years club members have asked about a club t-shirt and the Board has decided it's time to proceed. We would like to use artwork from a member so we are having a contest! We are looking for an illustration for the front, and will be adding the words Palomar Cactus and Succulent Society above &/or below the illustration. The t-shirt will be either white or a light colored fabric.

Submissions may be watercolor, oil, drawings, etc., and should be approx. 10" wide by 10-12" tall. Email a photo of the design to Annie Morgan @ info@palomarcactus.org or bring a CD of the artwork, or the actual artwork to a club meeting. Contact Annie with any questions.



~ SAVE THE DATE – April 16th from 10 to 2 ~

We will have the opportunity to revisit **Gary Vincent** and **Wanda Mallen's** botanic wonderland on Saturday, April 16th from 10 to 2 for a Coffee in the Garden. Details to follow in next month's newsletter.



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**15th BIENNIAL
MID-STATES
CONFERENCE**
JUNE 9, 10, 11, 12, 2016
DENVER, COLORADO

What better place to be in the month of June!

TEN OUTSTANDING SPEAKERS
TEN OF THE BEST CACTUS & SUCCULENT VENDORS
AFFORDABLE LODGING, SHOW PLANT AUCTION, FUN FIELD TRIPS

FOR MORE INFORMATION PLEASE CONTACT CONFERENCE CO-CHAIRS: RANDY TATROE
rtatroe@q.com 303-499-8958 or WOODY MINNICH cactusdata@msn.com 641-406-9816

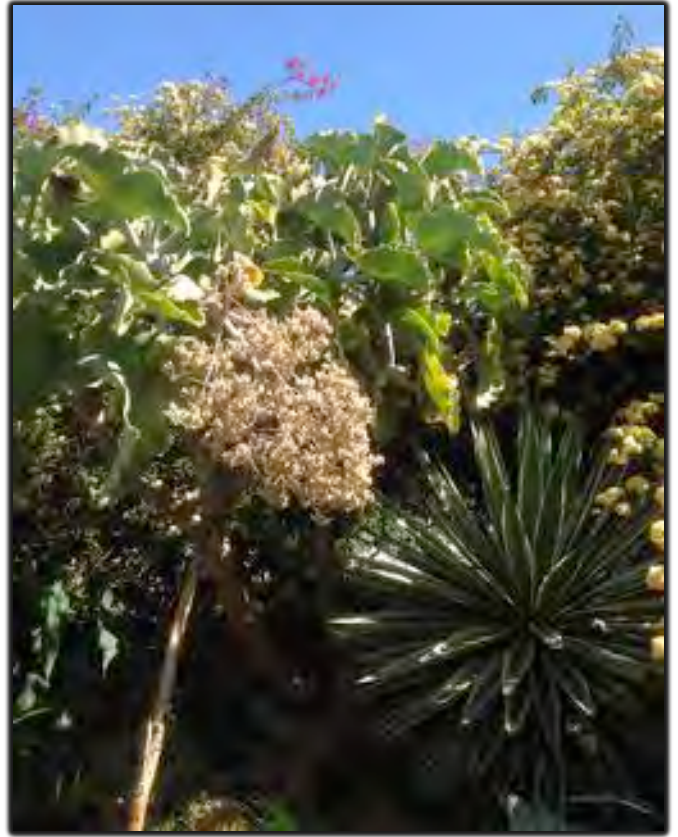
New Newsletter Feature ~ Members' Brag Garden or Plant Photo

Do you have a section of your garden that you'd like to share, or a plant that's too large or heavy to bring to the Brag Table? Now you can share it with other members!

- We will include one - three photos each month, depending on submissions.
- Each published photo will receive 3 Brag Points. Those who email in photos will receive one point.
- Take a photo and email it to Annie Morgan at info@palomarcactus.org.



Susan & Leon LaFreniere's *Euphorbia caput medusa* - 2 feet across



Don Nelson's *Kalanchoe beharensis* - 6' tall, and variegated agave in bloom



Susan & Leon LaFreniere's *Aloe marlothii* in bloom



**Orange County Cactus
and Succulent Society**

**FREE
Admission
& Parking**

**2016
SPRING
Sale & Show**

**NEW
HOURS**

**Thursday, March 17
6 - 8 pm**

**Friday, March 18
9 am - 7 pm**

**Saturday, March 19
9 am - 5 pm**

**Anaheim United Methodist Church
1000 S. State College Blvd. ~ Anaheim**

- Featuring many extraordinary, beautiful plants to view
- Over 20 Cactus & Succulent vendors offering thousands of rare, unusual plants
- Artisans will have a variety of quality pottery well suited for cactus and succulents available
- Knowledgeable experts on hand to answer questions

VISA, MASTERCARD & DISCOVER accepted.

**For more info, call Denise 949-212-8417 or Lori 562-587-3357
or www.occss.org**

San Diego Horticulture Society's Spring Garden Tour

This is always a great tour! If you've never been and have questions contact Annie Morgan at info@palomarcactus.org.

Saturday
APRIL 2
9 AM - 4 PM

Nine beautiful gardens
in Del Mar and Carmel
Valley

Del Mar Garden Club
giant sale

Vendors and artists in
the gardens

Proceeds fund
Horticulture
Scholarships

Garden tour map will be
emailed to purchasers
on March 31.

Ticket sales are limited
this year; all tickets
must be purchased in
advance. Don't miss
out, purchase your
tickets now.

No tickets will be
mailed. Check in by
name at any garden.

More information and
tickets:

[sdhort.org/
tickets](http://sdhort.org/tickets)



In 2016 the SDHS Annual Garden Tour takes garden lovers from the fertile low lying gardens of Carmel Valley to the sloping hillside landscapes of Del Mar.

Our self-guided tour of nine beautiful gardens showcases all that San Diego horticulture has to offer. Although every garden is water wise, each exhibits a unique approach to creating beauty in San Diego's distinctive climate. Tour gardens include an Hawaiian fantasy, a palm-studded paradise, a succulent jewel box and a celebration of the plants of Australia and New Zealand. One garden is a living plant tapestry; another gives a special nod to California natives. Stunning outdoor living spaces and inviting water features charm the visitor and encourage them to linger and savor the landscape.

Selected vendors will be selling garden related items, and clever irrigation techniques will be on display. A special attraction this year will be the Del Mar Garden Club's Annual Plant Sale featuring one-of-a-kind living plant arrangements and plant art for your garden.

TOUR & TICKET INFORMATION

Purchase tickets online at [sdhort.org / tickets](http://sdhort.org/tickets)

SDHS members \$25
Non-members \$35

Our Mission:

To inspire and educate the people of San Diego County to grow and enjoy plants, and to create beautiful, environmentally responsible gardens and landscapes.

Our Vision:

To champion regionally appropriate horticulture in San Diego County

SPRING GARDEN TOUR

Nine beautiful gardens
in Del Mar and Carmel Valley

Included on the tour:
The San Diego Home/Garden (Piper)
2016 Garden of the Year



Hawaiian Hilltop



Nature's Garden



Palm Paradise



Simply Succulent



Spanish Villa



Texture and Tapestry



Tammy Pines View



Horticultural Fantasy



Entertainer's Delight



Palomar Cactus & Succulent Society

The North San Diego County C & S Club!

Membership Application

Membership: Please ✓ a category:

New Member _____

Renewal _____

____ Annual dues w/color email newsletter \$20

____ Additional Household Members + \$ 5

____ Engraved PCSS Name Badge + \$ 6

Total _____

PLEASE PRINT! We must be able to read it!

Name(s) _____

Address _____

City/State _____ Zip _____

Phone # _____

Email _____

Bring form & check or cash to a meeting, or mail it in.
Make checks payable to:

Palomar Cactus & Succulent Society or PCSS
P.O. Box 840, Escondido, CA 92033

Palomar Cactus & Succulent Society

Peter Walkowiak – President & Program Chair

• hciservices@gmail.com

Brita Miller – Vice-President, Show Chair, Event Coordinator

• eventcoordinator@palomarcactus.org

Leon LaFreniere – Treasurer, Membership

• info@palomarcactus.org

Annie Morgan – Secretary, Website, Co- Program Chair

Publicity, Newsletter Editor

• publicity@palomarcactus.org

Francis Granger – Board Member & Exchange Table

Mike Nelson – Board Member

Carol McAllister – Board Member

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Fran Komarek – Librarian

Vicki Martin – Assistant Librarian

Chet Reed – Brag Plant Photographer

Tina Zucker – October Sale Vendor Coordinator

Bruce Barry & Sandy Wetzel-Smith – Refreshments

Dennis Miller – Benefit Drawing & Plant Sales

2016 So. California Event Calendar

Mar. 18-19 - Orange Co. C & S Society Spring Show & Sale,
Thurs. 6-8pm, Fri., 9am-7pm, Sat., 9am-5pm, 1000 S. State
College Blvd, Anaheim, CA, Info. 562-587-3357, www.occss.org

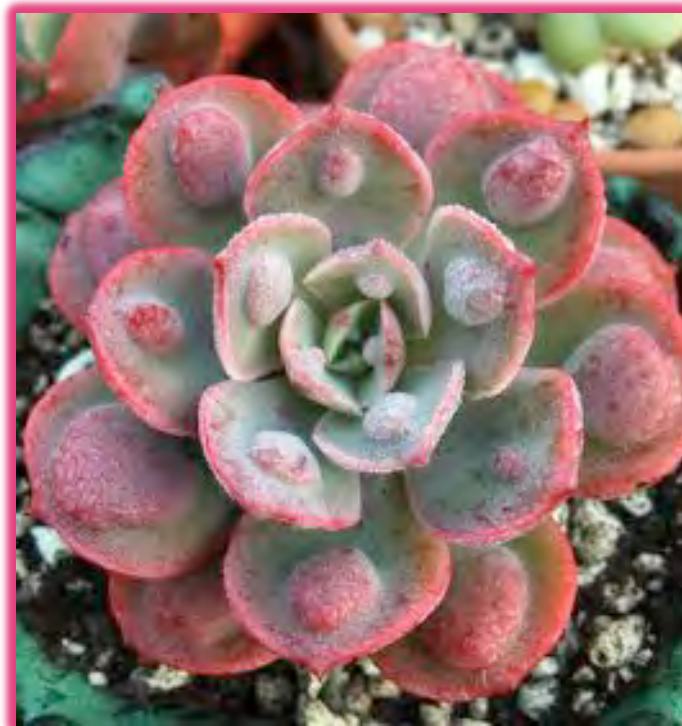
Apr. 9-10 – So. Coast Cactus & Succulent Society Show & Sale
So. Coast Botanical Gardens, 26300 Crenshaw Blvd.,
Palos Verdes, CA Info. 310-378-1953
<http://www.southcoastcss.org>

Apr. 24 - Huntington Plant Sale
10 to 4:30, Huntington Botanical Gardens, 1151 Oxford Road,
San Marino, CA Info. 626-405-3504 Info. 562-631-5876

May 1 - South Bay Epiphyllum Society Show & Sale,
9am to 4pm, South Coast Botanical Gardens, Info. 626-833-6823

2016 PCSS MEETING SCHEDULE

- 23 April
- 21 May – Note 3rd Saturday
- 25 June
- 23 July
- 27 August – PICNIC & AUCTION
- 24 September
- 22, 23 October – ANNUAL SHOW & SALE
- 19 November – Note 3rd Saturday
- 17 December – Note 3rd Saturday – Holiday Party!



Echeveria raindrops - Photo by Sandy Nicholls from Facebook - Succulent Infatuation - used with permission

[Day With The Succulent People - by Stan Yalof](#)

Agnes met Harley in the landscaping course at Mira Bosta College on a Friday. He asked her out the next day to the Sunbeam Cactus and Succulent Meeting. It sounded good, and a chance to learn something new. The meeting began with two well-organized short talks, one on someone's favorite cactus, and the other on Aloes, apparently an African succulent which resembled American Agaves. Following the talks, there was a break for refreshments. Agnes wanted to have a closer look at the plants that had been talked about on the front table but Harley said, "Later, let's burrow into the tidbits before the choice morsels are gone". "Why don't we eat later, Harley. I'd like to look up front. I'm fascinated with these plants." "Gee Agnes, I'm broke. Let's just tank up on these comestibles." "Harley, I can make a loan until payday." "I don't work." "Well, until your allowance comes in." "Nothing's coming in." "How do you live?" "Well last night I attended the Tortoise Society, the night before, the ..., but I won't take your charity. Principles!"



Balancing trays heaped with cakes, crackers, and punch, they went to the front table. Waving her hand over a spiny group of plants, she asked, "These are all cactuses?" "All except those over there. They are a Euphorbia, a Didiera, a Cissus, a grape family member ..." "They sure fooled me. What exactly is a cactus?" "It is a taxonomic family, like palms, Euphorbias, and about a hundred others. They are found only in the New World. There are three divisions, called sub-families: Pereskia, Opuntia, and Cereus. Most are suited to the xerophyte life, but some, like the Epis and the Hylocereus appreciate a good drink." "So, the succulents are another family?" "No, the word succulent covers about 28 families of plants, including Cacti, which can handle a desert life style. It has no taxonomic meaning?" "So Cactus and succulents are in different categories, and the title of the club "Cactus and Succulent Society" mixes metaphors, or apples and oranges, doesn't it?" "Agnes, you're splitting hairs. Everyone here knows what a cactus is, what a succulent is."

Agnes was having a ball. She summoned her strengths as a leader in numerous school forensic battles. "I believe the dictionary defines succulence as "juicy". Some juicy plants grow by the water. Pull em out and they're dead in an hour!" Harley smiled indulgently. "Succulence as we use it is the storage of water in specially enlarged spongy tissue of the roots, stems, or leaves. That gives us root, stem, and leaf succulents. Of the 100 plant families, about 25 to 30 have succulent members. Cactus is almost totally succulent. Some families might have only one succulent member."

"I've been listening in. You are a visitor, and we hope to see you often. I'm Ken Lamont, President of this club." He held out his hand and shook heartily. "I agree with everything Harley has said, but I'd like to add a few clarifications. Succulents have made physiological adaptations to withstand the desert rigors, like thick cuticles, hypodermal cells, storage tissues, parenchymatous, occasionally with above and underground storage organs, what we call caudexes." Harley nodded in agreement. "Couldn't have said it better."

"That does make your definition clearer, but I am still puzzled. You talk about storage tissues stuffed with water, and I can see that in the cactus genus, but what about that small tree on the table..." Ken located a Bursera, a small to medium tree from Baja California. "I must correct you on calling cactus a genus. I don't want to be stuffy, but according to the taxonomy rules they are a family. If we aren't precise in our classifications we get chaos. That small tree is a Bursera, and they drop their leaves in the hot season..." "...and have a tap root.", added Harley. Agnes looked confused, "And you call them succulents? No parenchymice, no caudex ...? Ken chuckled, winked at Harley and at the increasing group. "I see that you need a fuller explanation. There are many adaptations that succulent plants, err, arid land plants have made: like opening their stomata at night and storing the C02 for photosynthesis during daylight hours, what we call CAM. Another voice piped in, "Also, young lady, these plants handle a hot hot sun without their respiration going out the stomata and burning their glucose reserves." "Hey, that's interesting", began Agnes, "so these desert plants have invented this CAM and this hot hot sun metabolism." "We call that C-4, and it's used also by tropical grasses like sugarcane and corn. C-3 metabolism, named for its three carbon intermediate compound to a six carbon atom sugar, is the plant standard. C-4, when used, feeds into C-3 ..." Alice asked, "So these metabolisms are not the exclusive domain of succulents or arid land plant or desert plants." After a bit of foot shuffling, the group assented that this was true.

"Hi, I'm Tim. One thing desert plants are good at is gathering water from rare rainfall, mists, from anywhere. Some cacti have a mat of roots over a big area only two, three inches under. A little water, and they grab it. And they

don't leak it out back into the ground." The crowd voiced assent. "And some plants have tactics. The flower opens, gets pollinated, and in 15 minutes it closes down. Why waste energy?" "Tactics, that's good, but most plants have them ...sensitive plants, pitcher plants, orchids ... It's not unique to arid plants. From what I've heard here: Of the 100 or so plant families, about 28 have evolved strategies for surviving in an arid land. From what I've heard, these strategies involve: Stems (usually for water conservation); Roots; Greenery reduction; and Metabolics (for respiration).

"Stems, according to you guys involve a thicker, less permeable cuticle. What else?" Harley quickly answered, "to keep down water loss, stomata on the shaded side, fewer in number, aided by wax coverings, hair, and spines. Sometimes expansion pleats to let in more water." "Harley, can you find these on non-succulents?" "Here and there, yes, but probably not on a single plant. But I guess no succulents have them all." "How about swollen stems, a caudex? Isn't underground and above ground storage common? Tell me about succulent roots." "I can answer that", said Tim. "Roots can be deeply tapping to reach for water or surface spreading to catch light rains and dew. Some would disallow taproot plants as xerophytes, as they have a water source. I would allow them in if they prefer or can get started as a seedling under desert conditions. And taproots are used by many plants. Spreading roots are in a lot of stuff: grasses, desert brittlebushes ..." Alice added, "And for dropping leaves to get by, isn't this also seems to be a way of life for a lot of plants. Some arid land plants do it, some don't?"

A new voice piped in. "Hi, I'm Shirley. Greenery reduction is a big deal. It includes not only the shedding of leaves under arid conditions, but in some cases, their reduction in size or number. Some go as far as to reduce their branches to a spiny spot, as in the areoles of cacti. Cacti and some others photosynthesize through subsurface chlorophyll. But some stick the desert out with thick leaves, and coatings."

"Thanks Shirley. And we mentioned that CAM and C-4 metabolisms were important to many desert plants, but a lot of other plants, like corn, use it too. So we can't consider that as belonging to succulents. What about special succulent tactics?"

"Oh, succulents are clever with tactics", answered Ken, "you can't beat em, they save energy by growing up under nurse plants, by rapid flowering, by shutting down minutes after pollination, by seed germination only after certain humidity, temperature, and light conditions are met..." Shirley interrupted, "Ken, these behaviors are used by annual plants and we certainly only consider perennials as being succulents, and I'm not sure that the word succulent says what we mean." "Yeah, but its traditional. What would we replace it with? We all understand it." Alice looked perplexed. Its not a family, but a hodgepodge of traits. "Look Ken, none of the so-called succulent strategies are the exclusive properties of succulents. I'd call them arid-land plants, xerophytes ... something less vague."

"Too confusing", Ken stated, nodding to some in the crowd. "Less confusing," said Alice. She picked up some chalk and headed the blackboard with "PLANT HUMIDITY LIFESTYLES". Beneath that she split into XEROPHYTES and NON-XEROPHYTES. Disregarding NON-XEROPHYTES, she split XEROPHYTES in two, Annuals and Perennials. "How about those carpets of desert flowers, grasses?" A new voice belonging to Tim answered, "I don't know? They are desert plants, ephemerals. And they are all over the world. They come up fast after a rain, seed, and are gone in a month or two. I'd call them drought escaping. We don't show them here. And, don't they have their own society?" " So after a first flush of rain and warm weather the drought escapees leave and we are left with the drought resistors, the perennials, which is the concern of this society."

"Stop right there, call them succulents, and I'll buy it", called out Ken.

"But Ken, some of these are drought avoiders, with their deep roots, and can move in and out of arid land habitats. They're casual about the xerophyte lifestyle. The others, uh, drought tolerators, maintain their metabolism despite teensy water uptakes. That includes the thick skins, the wax coatings, the hairs and spines, the spreading roots, storage vessels, respiration tactics, like CAM and C-4, and the energy conserving tactics. These don't belong to any one plant group. Even desert animals use them. Your society pretends to be scientific with cactus, a plant family, in its name, and then you mix in succulents, a vague term, confusing plants with lifestyles!"

Ken sputtered, "Agnes, you've been with us one hour, you think that you're an expert but you're just opinionated. I see that you've wasted two hours. I never thought that I'd say this to anyone, but we don't need members like you!" "Then you don't need me either, said Harley." Arm in arm they walked out, slowing only to pick up a plate of cookies for the road.

• • NOTE: The preceding perspective on succulents blends my views with those of Willy Verheulpen, of the Brussels Free University, a regular on the <cacti_etc> Internet list.