CACTUS COURIER

Newsletter of the Palomar Cactus and Succulent Society

The North San Diego County Cactus and Succulent Club

Volume 68, Number 3 **March 2022**

Our 2022-23 PCSS Board of Directors
Charlyne Barad, Lorie Johansen, Brita Miller, Moni Waiblinger,
David Buffington, Don Nelson, Robert Kopfstein,
Liz Rozycki (assistant to the Treasurer)
Photo by Annie Morgan

In This Issue	Page
March 2022 Meeting Info	1
Membership Renewal	1
2022-23 PCSS Board of Directors	1
President's Corner	2-4
Plant of the Month - Sansevieria	5-6
March Brag Plants	7-8
Membership Fee Info/Order Form	9
Board of Directors/Volunteers	9
Social Media Info	9
2022 Meeting Schedule	9
Palomar College Arboretum & Garden Tour	9

2022 March Meeting Information

Fourth Saturday, March 26, 2022

11:00am - 2:45pm

(No access through the back gate.)
Masks are encouraged but not required.

Refreshments: Snacks are Back! See box below!
The Plant of the Month is Sansevieria.
Brag Plant Table: Plants must be labeled and on the table **no later than 11:45am** to be judged. Please bring no more than 3 plants.
Exchange and Benefit Drawing Tables: Yes
Auction: Yes
Speaker: Stay tuned for an e-blast about this month's speaker and program!

MEMBERSHIP RENEWAL

Please support our club by renewing your membership for 2022. Membership dues allow us to rent facilities, bring speakers to meetings, provide a monthly newsletter and a website, and to provide other activities. Membership is only $25, or $30 with an additional household member, and it is good until the end of 2022. We are extending membership renewals through the end of March. You may renew at the March meeting. Membership forms will be available. You may also click the membership form link on page 8 of this newsletter or you may go to the website, PalomarCactus.org, and in the Membership section you can print out a form and either bring it to a meeting or mail it in with a check as indicated.

Snacks are Back! At long last we are able to bring food to our meetings!
Please bring a ready-to-serve snack or dish to this
or one of our future meetings. Life is returning to normal!

President's Corner

By Robert Kopfstein

And the flies, the moths, the bats, the ants, the wasps, not to mention the wind.

Plants—obviously cactus and succulents included—can reproduce themselves either sexually or asexually; we humans are so far limited to sexual reproduction exclusively, even though theoretically we can be cloned. More on this issue in a bit.

The angiosperms, flowering plants, evolved about 250 million years ago, and before that time plant life used other strategies to reproduce. The ferns multiplied by producing spores while the early coning plants like cycads, horsetails, welwitschia produced seeds on structures that were completely exposed. Hence they are scientifically referred to as gymnosperms ("naked seed" in Greek—see, we are already inching toward an R rating).

The gymnosperms have a small handicap: they are dioecious (in Greek "two houses"). One plant has cones that produce only pollen, and a separate plant has cones that produce ovules that, if pollinated, can develop into viable seeds. We refer to these cones as being "male" and "female" but this is really an anthropomorphic way of looking at the situation.

Modern cycads, dioecious gynmosperms, follow this pattern. A male plant can only produce cones with pollen sacs on the underside of the cone sporophylls. Small beetles find these male cones very tasty, so during the day they pig out on the sporophylls, getting covered with the plant's pollen. When night falls and the temperature drops they find their way to the female cycad. Her cones are highly toxic to the beetles, but she has opened her sporophylls and raised the temperature of her cone 10 degrees Celsius. The pollen-covered beetles take full advantage of this cozy shelter with central heating. They can spend the night carousing in complete comfort. By morning the female cone, unmolested by her beetle guests, is pollinated.

(cont. on page 3)

President's Corner

(cont. from page 2)

There is a slight disadvantage to this system: there must be at least two plants of opposite sexes in reasonable proximity, and the coning has to be simultaneous or the female cone will produce unviable seed. Sometimes, because of poaching, enough plants are removed so that there is little chance of pollen exchange, and the species is threatened with extinction.

One of the sadder stories of the disadvantages of being dioecious is that of Encephalartos woodii. In 1895, the director of the Durbin, South Africa botanic garden discovered a mature male clump of five stems.
He removed three to the garden and then began to search for a female specimen. To date, none has ever been found, so the only way to propagate this cycad is by vegetative offsets. As a result, this plant is both scarce and—when available—very expensive, doomed to live out its life without the pleasure of female companionship, and all of the descendants of the original stems are exact clones of the originals. Cloning is now common in the meristemming of plants and it has been proposed for mammals as well. We can do it—witness Dolly the sheep—but there are ethical and moral objections. Currently there are proposals to clone wooly mammoths and the passenger pigeon, both of which humans drove to extinction.

In contrast to the gymnosperms, the angiosperms are usually monoecious; they have both male and female structures on the same flowers. There are, of course, exceptions (think of kiwi fruit) and some angiosperms, even though they have both pollen-producing anthers and seed-producing ovules, they cannot self-pollinate, usually because on any given plant the anthers dehisce at one time and the ovules are receptive at a different time. So in order for a flower to be fertilized the pollen must come from another plant of the same species.

All of this structural sophistication is not worth very much without the necessary outside agents: the pollinators, who come in a wide variety of shapes and sizes. These participants, in a sort of vegetative menage a trois, include butterflies, moths, bees, bats, ants, hummingbirds and so forth. Often the pollinator is attracted by color, by shape, or by scent, either pleasant or unpleasant (as measured only by human olfactory standards). Some plants, pines for example, indiscriminately release their pollen to the wind, land where it may. If it happens to alight on a receptive female reproductive structure, then there is fertilization. This pattern of dispersal seems to apply to some human males.

For the pollinating agents the payoff could be a sugary nectar, produced in the flower that acts as a food source as well as an attractant. The flowers of many succulents and cactuses produce an abundance of nectar that attracts bees, moths, ants, and bats. Puya alpestris, native to dry western slopes of the Andes in Chile, produces so much nectar that a few years ago I saw a gardener sip it through a straw inserted into the flower, whose petals are an electric dark blue, and whose anthers are brilliant gold. So this puya entices a variety of pollinators with color, and with a nourishing sweet reward.

Aloe rupetris
Photo by Robert Kopfstein

(cont. on page 4)

President's Corner

(cont. from page 3)

Many cactuses are night bloomers because the harsh environment in which they live would likely damage the more delicate flower structures if they were to open during daylight hours. In addition, the pollinators are also nocturnal. So often the flowers of night bloomers are white; that way they are more visible to the moths and bats that provide pollination services.

Day-blooming cactuses and succulents often have colorful blooms, and in my opinion, these blossoms can rival the orchids in their beauty. The daylight pollinators often include bees, hummingbirds, ants, and beetles who often can be seen swarming around the floral abundance so exuberantly flaunted.

We as humans also profit from this botanical orgy. We market a variety of honeys, the flavors of each dependent upon the blossoms from which they are derived. Beekeeping is an ancient art, and the apiarists provide us with not only honey, but pollen and wax, and the bees pollinate our orchards to insure an abundant supply of fruit.

Echeveria cante
Photo by Monica Mosack

Neoporteria sp.
Photo by Monica Mosack

Flowering plants depend on their pollinators, and if these pollinators disappear, the plants are either doomed or suffer a drastic loss of population. On the island of Kauai there is a stem succulent that grows on very steep cliffs: Brighamia insignis. It was pollinated by a long-beaked Hawaiian bird; however the bird (as are many of the Hawaiian native birds) is now extinct. You do not have to think twice who caused these extinctions . . . To save the plant, botanists were lowered on ropes from helicopters, and with artists' brushes they hand pollinated the flowers, then collected the resulting seed, and created an ex situ conservation area in a more accessible location. If this plant is to survive, it will have to be artificially inseminated by the very humans who caused its problem in the first place.

So there you have it; plant reproduction is a very intricate process, and in this brief space I have only touched on a very few of the highlights. I can recommend a very reliable book on the topic: Sex In Your Garden by Angela Overy—in this case perhaps an aptly named author. (Fulcrum Publishers, 1997).

Enjoy.

MARCH

Plant of the Month

BY LORIE JOHANSEN

Sansevieria

Sansevieria cylindrica
Photo by Lorie Johansen

Sansevieria are native to the arid regions of Africa, Madagascar, and southern Asia. Sansevieria, former genus of about 70 species of flowering plants in the asparagus family (Asparagaceae), is now placed in the genus Dracaena based on phylogenetic data as of 2018. For the purpose of this article, I will continue to use the name Sansevieria.

Like so many other plants of arid regions, Sansevieria evolved CAM photosynthesis as a means of coping with heat and drought. Instead of opening their stomata during the day when hot temperatures would cause them to lose precious water, they open them at night and store CO2 in the form of an organic acid. When the sun rises the next day, the plants close their stomata and utilize the acid-stored carbon for their photosynthetic needs.

Most growers know the common names Mother-in-Law's Tongue, Snake Plant or Devil's tongue. A less common name is Viper's or Ceylon Bowstring Hemp. This name was given due to the strength of the plant fibers that are strong enough to make bow strings. This common name is most aptly applied to the S. zeylanica.

There are a few different growth forms. The most familiar to the average houseplant enthusiast is the form typified by Sansevieria trifasciata. These plants produce long, narrow, sword-shaped leaves. Many other Sansevieria species, such as S. subspicata and S. ballyi, take on a more rosette form with leaves that span the gamut from thin to extremely succulent. Still others, like S. grandis and S. forskaalii, produce much larger, flattened leaves.

Sansevieria sp.
Photo by Lorie Johansen

Regardless of their growth form, a majority of Sansevieria species undergo radical transformations as they age. Because of this, adults and juveniles can look markedly different from one another. A species that illustrates this nicely is S. fischeri. When young, S. fischeri consists of tight rosettes of thick, mottled leaves. For years these plants continue to grow like this, reaching surprisingly large sizes. Then the plants hit maturity. At that point, the plant switches from its rosette form to producing single leaves that protrude straight out of the ground and can reach heights of several feet! Because the rosettes eventually rot away, there is often no sign of the plant's previous form.

Though there is variation among the various species, Sansevieria all form flowers on either a simple or branched raceme. Flowers range in color from greenish white to nearly brown and all produce a copious amount of nectar. After pollination, flowers give way to brightly colored berries, hinting at their place in the Asparagaceae family.

Sansevieria has been put through its paces by NASA's Clean Air Study, a fascinating study that looked at how the air in space stations could be cleaned and filtered. It found there were several plants that can naturally remove toxins in the air. Sansevieria was one of the top performers! Well known for its air-purifying qualities, it can remove benzene, formaldehyde, trichloroethylene, xylene and toluene, and it was even shown that one plant per 100 square feet was enough to efficiently clean the air in a space station!

(CONT. ON PAGE 6)

March
Plant of the Month

(cont. from page 5)

Good for clean air, but not good for curious pets. Keep Sansevieria away from furry friends. According to the ASPCA, this plant is toxic to cats and dogs. Chewing or ingestion can result in vomiting and diarrhea. I can attest to the veracity of this when our Turkish Van cat chewed on the leaves. Poor Zoomer was not feeling well for a few hours thereafter. All houseplants are no longer within reach.

Sansevieria masoniana
Photo by Lorie Johansen

Sansevieria Arrangement by Christina Trujillo
Photo by Lorie Johansen

CULTURAL REQUIREMENTS:

Sansevieria prefer indirect but steady light with some direct sun. They can adapt to full sun conditions and will also survive dimly lit situations. Plant in a well-drained potting mix. Let the soil dry between waterings. During the winter, reduce watering to monthly, or whenever the soil is dry to the touch. Err on the side of under-watering; too much water can harm the plant. They prefer warm conditions and will suffer if exposed to temperatures below 50 degrees. Feed with a mild cactus fertilizer during the growing season. They are light feeders and too much fertilizer will cause their leaves to fall over. Do not fertilize in the winter. You can avoid an insect invasion if you keep your plant healthy. Insects usually attack a plant when it suffers from environmental issues like incorrect water levels, humidity, and air circulation. Remove the insects by using a gentle spray of water or with an organic neem oil.

PROPAGATION:

The thick rhizomes allow for easy division propagation. Separate pieces of a mature plant to create more plants. Leaf-cutting propagation is another option. Cut the leaf into four or five sections and plant in a well-draining soil mix.

Sansevieria sp.with berries
Photo by Lorie Johansen

RESOURCES:

https://thegoodearthgarden.com/all-about-sansevieria/
https://worldofsucculents.com/genera/sansevieria/page/3/https://www.thespruce.com/snake-plant-care-overview-1902772https://leafyplace.com/snake-plants-sansevieria-varieties/
https://happydiyhome.com/snake-plant-varieties/
https://www.indefenseofplants.com/blog/2018/9/3/r335zfh02b4ui6m0xp50vn4cewgjwo

March Brag Plants

Novice Cactus

1st Liz Rozycki — Mammillaria gracilis fragilis - 1

Intermediate Cactus

1st Harold Dunn — Eriosyce crispa - 2 (formerly Neoporteria)

2nd Kevin Smith — Stenocereus hollianus cristata - 3

3rd Charlyne Barad — Parodia scopa - 4 (formerly Notocactus)

Advanced Cactus

1st Dean Karras — Eriosyce senilis - 5

Novice Succulent

1st Keith Umbreit — Graptopetalum paraguaysens crestata - 6

Intermediate Succulent

1st Alan Chamberlain — Pleiosoilos nellii - 10

1st Charlyne Barad — Pleiosoilos nellii - 9

2nd Pauline Wong — Aeonium arboreum crestata - 8

2nd Heather Chan — Hawarthia cymbiformis - 13

3rd Kevin Smith — Gasteraloe 'Green Gold' - 7

Advanced Succulent

1st Robert Kopfstein — Aeonium leucoblephrum - 11

Plant of the Month (Lithops) – Novice

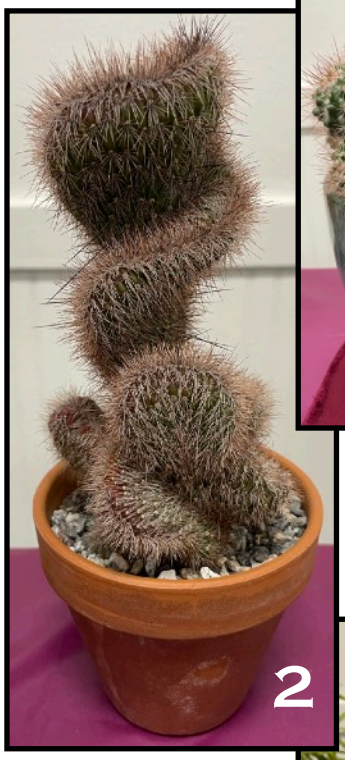
1st Liz Rozycki - 15

Bowl Garden – Intermediate

1st Monica Mosack — Haworthia attenuata, Faucaria tigrina - 14

Bowl Garden – Advanced

1st Mike Nelson - 12



(CONT. ON PAGE 8)

March Brag Plants

(cont. from page 7)

The Friends of the Edwin & Frances Hunter ARBORETUM at PALOMAR COLLEGE

"Arboretum & Cactus Garden Tour"

Saturday, May 7, 2022

9:00 am – 11:00 am

Free Parking in Parking Lot 5 for this tour.

We will meet at the west entrance to the Arboretum, east of the NS Building. This event is limited to 20 people. Please bring a mask in case you need to enter a building and/or use a restroom. Attendees will be required to fill out the Covid questionnaire at the following website: "CLEARED4CLASS"
https://www.c4wrk.com/JszEMJV1C7cXyWwm9
Water will be provided. The tour is free.

Optional:
Bring your own water, snacks, sunscreen lotion, hat and sunglasses.
Wear comfortable walking shoes.

Please **RSVP Tony Rangel** if you will be attending this tour.
Email: arangel@palomar.edu Or call: (760) 744-1150 x2133
Palomar College San Marcos Campus
1140 West Mission Road
San Marcos, CA 92069
https://www.palomar.edu/arboretum/

PALOMAR COLLEGE Learning for Success

Palomar Cactus & Succulent Society
Board of Directors

Robert Kopfstein - President, Show Chair - president@palomarcactus.org
Don Nelson - Vice-President, Program
Brita Miller - Past President, Meeting Set-Up
John Barkley - Treasurer
Moni Waiblinger - Secretary
Charlyne Barad - Member at Large
Lorie Johansen - Member at Large, Guest & New Member Ambassador, Plant of the Month Articles
David Buffington - Member at Large, Brag Points

Other Volunteers

Monica Mosack - Newsletter Editor
monicaatpcss@gmail.com or text 619-379-4303
Richard Miller - Membership - membership@palomarcactus.org
Annie Morgan - Website and Facebook
info@palomarcactus.org
Dean Karras - Program, Plant Expert, Instagram
gnosisnursery@gmail.com
Dennis Miller - Cash Register at Monthly Meetings
Sandy Wetzel-Smith, Bruce Barry,
Jamaye Despaigne & Ellen Pankuch - Refreshments
Barbara Raab - Librarian
Kevin Smith - Brag Table
Francis Granger - Guest & New Member Ambassador
Brian Magone - Exchange Table
Russel Ray - Photographer, Website, AV
Julie Kort - Name Tag Drawing Plants
Libbi Salvo - Monthly Meeting Set-up

Palomar Cactus & Succulent Society

The North San Diego County C & S Club!

MEMBERSHIP FORM

Click here for a printable form:
https://www.palomarcactus.org/wp-content/uploads/2021/10/PCSS-Membership-Form-Rev-10-23-21.pdf

Social Media

Website: www.palomarcactus.org
Instagram: Palomar.cactus.succulent.org
Email: info@PalomarCactus.org

Facebook for admin notices:
@Palomarcactusandsucculentsociety

Facebook group for members to post:
Palomar Cactus and Succulent Society Group

2022 MEETING SCHEDULE

Date	Speaker and Topic	Plant of the Month
April 23rd	Petra Crist/Rare Succulents	Didiera
May 28th	Stephan Burger / TBA	TBA
June 25th	Member Festival	
July 23rd	TBA	TBA
August 27th	Picnic	
September 24th	TBA	TBA
October 22nd	TBA	TBA
November 19th	TBA	TBA
December 17th	Holiday Party	