

CACTUS COURIER

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

Volume 68, Number 2

February 2022

2022

FEBRUARY MEETING
INFORMATION

Third Saturday,
February 26, 2021
10:30am - 2:30pm

(Note: no access to the building before 10am
and no access through the back gate.)

The Park Ave. Community Center mask policy -
Masks must be worn in the building at all times.

Refreshments: We will have coffee.

The Plant of the Month is Lithops.

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

FEBRUARY SPEAKER - NICK BASINSKI

The Dudleya Genus: In Habitat and Cultivation

Nick Basinski is an agricultural inspector working with the nursery industry. At home he landscapes strictly with California native plants, with a focus on Dudleyas and other rare local species. See page 8 for more on Dudleyas.



Dudleya anthonyi
Photo by Monica Mosack



Dudleya brittonii
Photo by Monica Mosack

In This Issue	Page
February 2022 Meeting Info	1
President's Corner	2-3
Plant of the Month - Lithops	4-6
Membership Renewal & Directory	5
Election Info	6
Virtual Brag Plants	7
Dudleyas in Nature	8
Membership Fee Info/Order Form	8
Board of Directors/Volunteers	8
Social Media Info	8
2022 Meeting Schedule	8

FEBRUARY 2022

President's Corner

BY ROBERT KOPFSTEIN

A cactus reprise.

In the September 2021 President's Corner article I touched a bit on the evolution of the family cactaceae, but perhaps a closer look at this remarkable group of plants, unique, diverse, and an integral part of what the Palomar Cactus and Succulent Society is all about.

Cacti seem to be the most improbable of plants, in their form, their varied habitats, and their otherworldly beauty. Dr. Seuss in his most imaginative and creative moments could not have come up with a more bizarre life form.

The name cactus comes from Theophrastus, the Greek philosopher and botanist who lived in the late 4th and early 3rd century BCE. Apparently he appended this name to a spiny plant that grew in the Mediterranean area. In Greek the name is KAKTOC, but the plant seen by Theophrastus could not have been what today we call cactus because all cacti are exclusively new world plants – Columbus would not be arriving in the Americas for another 1800 years or so.

It is possible that Columbus did bring back to Spain a cactus specimen. (He did for sure bring back a bromeliad: the pineapple or ananus). However, the first mention of cactus in European literature was in 1570. Since then, there have been volumes of studies on this most unusual plant, and the discussions and debates among the botanists and taxonomists have been—to say the least—lively.

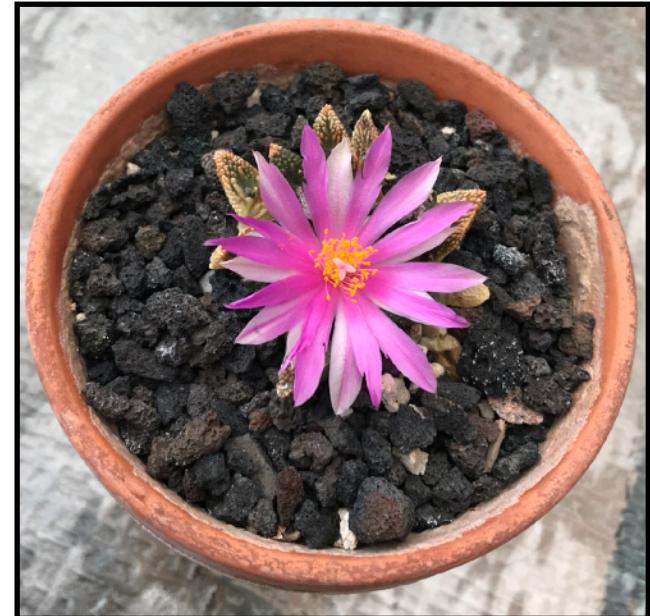
There is no definite agreement on exactly when the cactaceae first appeared on the scene. The fossil record is non-existent except for a couple of opuntia-type specimens discovered in Utah. They were dated as being about 66 million years old; however, the general consensus is that the family cactaceae showed up somewhere around 25-30 million years ago as the earth became more arid in some places. What is generally agreed is that the genera Lutrenbergeria, Pereskia, and Rhodocactus are likely the earliest forms of cactus.

Like all cactus, these three genera have the characteristic aeroles, but they also not only have spines, but leaves; and the more mature plants have trunks and bark. There is also a genus called Maihuenia that also has both leaves and spines. It is a low-growing plant that lives in the southern Andes as well as in Patagonia where the temperature drops to well below freezing in the winter.

In his book *The Cactus Family*, Edward F. Anderson (Timber Press, 2001) describes the characteristics of this special group of plants, describing their origins, physical characteristics, distribution in North and South America, their reproduction strategies, and their ethnobotanical uses. I believe that this book is in the PCSS library, so it might be well worth your time to check it out (remembering to return it so another member can also profit from perusing its contents).

Some details about cactus:

- There are about 1750 species contained in 127 genera.
- They live epiphytically in wet forests and in the Atacama Desert, one of the driest places on Earth.
- They can be tiny (less than 1 inch in diameter), to gigantic, more than 63 feet tall.
- Because most have no leaves they photosynthesize in their stems.
- Cactus spines are modified leaves (thorns, as on roses, are modified branches).
- The defining characteristic of the cacti is the aeroles from which arise the spines.
- Crassulian Acidic Metabolism (CAM) is how the cacti survive in dry growing conditions. The plants take in carbon dioxide and emit water only at night.



Ariocarpus bravoanus
Photo by Robert Kopfstein

President's Corner

(CONT. FROM PAGE 3)

- Pollination is by insects, birds, and bats. The insects include butterflies (if the flowers are colorful and open during the day) and moths (if the flowers are white and open after dark). Bees are also major pollinators, attracted both by the nectar and the pollen. Daytime pollinators are also usually hummingbirds seeking the nectar; after sunset the bats feed on the nectar of the night blooming species.
- Cactus usually come in three general forms: arborescent (often with both spines and leaves); columnar (mostly vertical, but some can have a prostrate or creeping habit); and globular or globose (ball shaped).

What is it that attracts people to these plants which appear to be so forbidding? My first purchase of a plant was at Woolworth's five and dime. I bought a cactus seedling for 15 cents when I was 11 years old. The plant did have an ID tag: cactus. It was a columnar cactus and grew to a height of 5 feet in a pot in my parents' dining room in Cleveland, Ohio for more than 30 years. My mother grew to hate it because she would get stabbed whenever she backed into it when she was dusting.

Cactus are very popular here in the Americas, but overseas it is considered really a desirable exotic. Even today cactus and succulents command handsome prices in Europe and Asia. In Paris in the 18th century a cactus specimen fetched a price equal to its weight in gold. This desirability has led to widespread and unscrupulous collecting from habitat. As a result all cactus are considered endangered by CITES, the Convention on International Trade in Endangered Species. Most are schedule II, but a few – like *ariocarpus* – are schedule 1 (highly endangered). Other threats to cactus in habitat include farming and ranching, viticulture, and of course goats, the scourge of all plant life.

Ethnobotanically cactus are used for a variety of purposes. The fruit, called tunas or pitaya, can be eaten raw, if first you remove the glochids, the tiny hair-like spines that are next to impossible to see, much less remove. I have found that picking the fruit either with tongs or with heavy leather gloves and then swirling it in a five gallon bucket 1/3 full of water for a minute or so eliminates about 90% of the glochids. You can then peel the fruit using latex gloves to protect against any remaining glochids. Tunas also can be cooked to make a very tasty jam.



Ariocarpus fissuratus
Photo by Robert Kopfstein

Nopales are the de-spined pads of opuntia which can be julienned and sauteed to make a great addition to scrambled eggs or an omelet. They also can be boiled and used cold on a salad. The taste and consistency, including the sliminess, is somewhat like okra. This mucilaginous juice of the opuntia pads was used as a binder in the manufacture of traditional adobe bricks.

Opuntia species have been used as very effective fencing—few critters would want to tangle with these formidable pincushions. They were imported to Australia for this purpose, but the plants naturalized and the Australian government has now declared them a noxious weed.

Two varieties of cactus have been used for over 5,000 years for their psychoactive qualities: *Lophophora williamsii* (peyote) and *Echinopsis pachanoi* (San Pedro cactus). The name San Pedro -- St. Peter -- came into use when the Spanish missionaries tried to stamp out its use. St. Peter presumably holds the keys to paradise, and San Pedro cactus can open those gates for you without your having to go through all the rigamarole and inconvenience of dying.

FEBRUARY

Plant of the Month

BY LORIE JOHANSEN

LITHOPS: THE BEAUTY OF FLOWERING STONES

The first Lithops was discovered in 1811 by William Burchell during a botanical expedition in southern Africa. Lithops are succulents in the Aizoaceae family, named for their stone-like appearance: lithos (=stone) and opsis (=like). There are at least 37 species (new species continue to be discovered) and numerous varieties (145+). Desmond and Naureen Cole, although they were not specialized in botany, had a devouring passion for Lithops. They gradually gave up their professional activities to devote themselves exclusively to the inventory of Lithops and the setting up of a vast collection and an invaluable seed bank. They are the authors of the reference book "Lithops, flowering stones." The majority of the Lithops seeds that are offered on the market bear their mark--the C of Cole.

In their native habitats in Namibia and South Africa, Lithops have evolved to blend in so well with their surroundings – looking just like the sand and stones they live in. They are the epitome of camouflage and are often called mimicry succulents. Even experts in the field sometimes have difficulty locating plants because of this unusual deceptive camouflage.

Lithops (the word is both singular and plural, and is both the scientific name and a common name) are found in widely separated, sparsely populated colonies. In periods of near constant drought, they shrivel and shrink below the soil level. These nearly stemless succulents only grow from ½-1" high and from 1-3" wide. Staying small and keeping a low profile helps minimize the effect of the intense heat and sunlight where they live. The scarcity of water demands that young plants limit to only two leaves and a root system, as more extravagant growth would only serve to waste water. The leaves are thick to store enough water for the plants to survive for months without rain.



Lithops sp.

Photo by Lorie Johansen



Lithops sp.
Photo by Lorie Johansen

How often have you heard "I have killed a few of these."—(including this author)? Overwatering is the most common mistake in growing Lithops. Understanding the life cycle of these "living stones" may assist in successful growing. When one looks at a Lithops, all that's visible above the ground's surface is usually a pair of fleshy, succulent leaves with a crevice between them (hence another common name -- "butt plants"). The window-like cells on the leaf surfaces allow light deep into the plant to aid in photosynthesis. The main taproot is the most important for the plant's survival.

FEBRUARY

Plant of the Month

(CONT. FROM PAGE 5)



Pleiospilos nelii 'Royal Flush'

Pleiospilos is in the same family, Aizoaceae, as Lithops with similar cultural requirements

This is the same plant in 2019 and 2022, from left to right.

Notice the different color flowers.

Photo by Lorie Johansen

Lithops flower in the late autumn or early winter. A single flower will be pushed up from the crevice between the pair of leaves in the third to fifth year of growth. The daisy-like flower can be white, orange, or yellow and will open in the early afternoon to soak in sunlight and allow for pollination, and then will close in the late afternoon. They are not self-pollinating and are reliant on insect pollinators or humans to produce seed.

When the flower fades, the center forms a seed capsule. This capsule does not open unless it's been moistened, but once it does, rain droplets can cause seeds to bounce out of the capsule and land up to a foot away from the parent plant! As the Lithops seed capsule dries again, it will naturally close to protect any remaining seeds inside. To harvest Lithops seeds, you can simulate rain by using a dropper to drip water on the seed capsule until it reopens and then remove the fine seeds. They can take up to a year to germinate and require carefully controlled conditions.

When flowering ends, the plant will go dormant. During this time, it starts to form a new body. When it begins to grow again, the new leaf pair will emerge from the crevice between the old leaves. Over time, the plant will draw its moisture and nutrients from the old leaves, transferring it to the new pair. The older leaves will thin out. Once they've become paper-thin and are devoid of their moisture, they can be removed to reveal the new plant body.

Lithops may create two leaf pairs instead of a single pair and can gradually expand to become a clump of small plants.

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 February 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.



FEBRUARY

Plant of the Month

(CONT. FROM PAGE 5)

CULTURAL REQUIREMENTS:

Spring and fall are the plant's normal growing seasons, and the time when it's most likely to need water. Don't water unless the soil has completely dried out to four or five inches below the surface. If Lithops look plump without water during spring and fall, don't water. Chances are that it's getting enough moisture from the humidity in the air. They go dormant in the summer heat, and it's important to only water it if the plant is becoming wrinkled and looking as though the leaves are drying out. Water sparingly early in the morning; the smallest amount (1-2 tablespoons) will provide ample moisture for the leaves to plump back up. Overwatering causes epidermis breaks resulting in scarring or worse, death.

After they have split open and the new set of leaves has begun to develop, water twice a month.

Begin increasing the frequency of irrigation again in the autumn, when the plants come into flower. Their growth is focused on the autumn, and that's when they require the most water.

In other words, don't water during the hot summer or the cold winter.

If grown in a container, bottom watering by immersing the container is recommended.

Grow in a gritty cactus mix that is pumice/perlite rich for fast drainage. Choose a pot that is at least three to five inches deep to accommodate the long tap root. Fertilizer is not necessary.

If grown in a sunny, well-ventilated environment, most pests can be avoided. Lithops are vulnerable to spider mites who can hide in the fissure between the old and new leaves. Use water to dislodge and then treat with neem oil or insecticidal soap. Isolate the plant.

Mice may also be a problem as they chew on Lithops for the water content.

Benign neglect is the best assurance of growing these miniature wonders.

RESOURCES:

<https://savvygardening.com/lithops/>

<http://www.lithops.info/en/index.html>

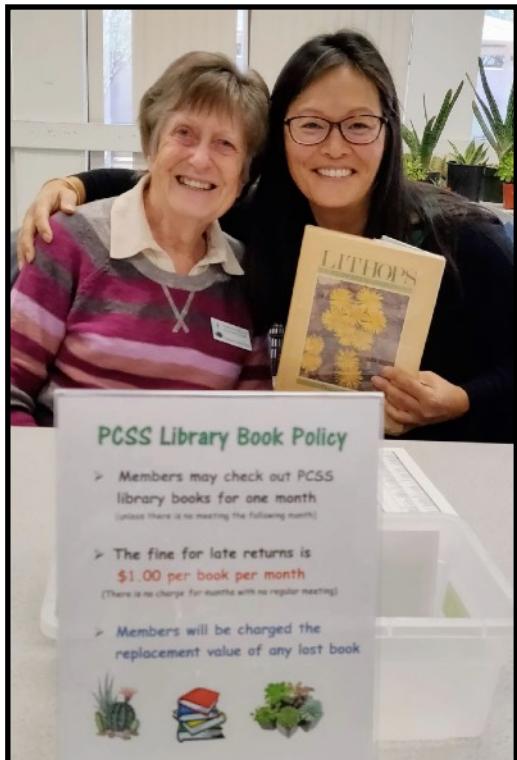
<https://hort.extension.wisc.edu/articles/living-stones-lithops/>

<https://www.epicgardening.com/lithops/>

<https://www.wild-lithops.com/english/the-book/>

http://www.llifle.com/Encyclopedia/SUCCULENTS/Family/Aizoaceae/12964/Lithops_lesliei

<http://lithops-passion.com/living-stones/cole-numbers/>



Our wonderful librarian, Barbara Raab and member Tammy Harmon, checking on a book by Desmond Cole.

Photo by Lorie Jacobsen

It's Election Time!

We will vote at the meeting February 26, 2022.

Proposed slate of officers:

President - Robert Kopfstein, 2-year term ending Dec. 2023

Vice President - Don Nelson, 1-year term ending Dec. 2022

Treasurer - Nathalie Nguyen, 2-year term ending Dec. 2023

Secretary - Moni Waiblinger, 1-year term ending Dec. 2022

Member at Large - Lorie Johansen, 2-year term ending Dec. 2023

Member at Large - David Buffington, 2-year term ending Dec. 2023

Member at Large e - Charlyne Barad, 1-year term ending Dec. 2022

Nominating Committee - Brita Miller and Monica Mosack

VIRTUAL

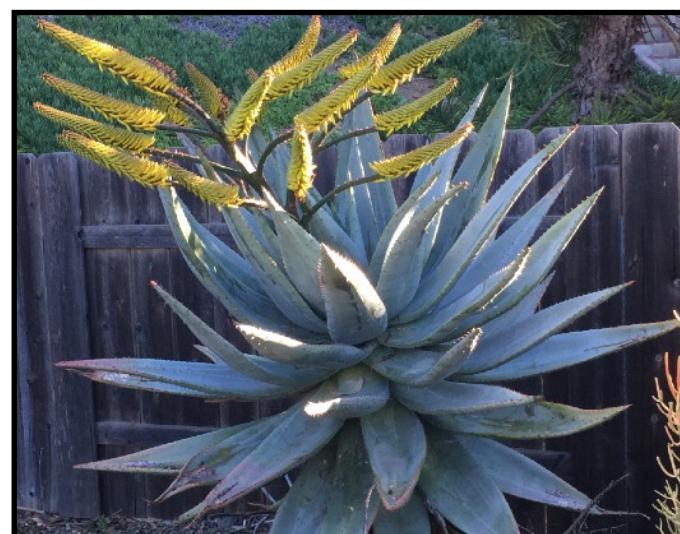
Brag Plants



Fenestraria rhopalophylla
Photo by Lorie Johansen



Aloe ramossissima
Closeup of *Aloe ramossissima* flower (inset)
Photo by Robert Kopfstein



Aloe marlothii
Photo by Gloria Kendall



Glottiphyllum longum
Photo by Lorie Johansen

RARE LIVE FOREVER PLANTS IN PERIL



Dudleyas in nature
Photos by Monica Mosack



Click below for two videos about California's fight to protect native plants from an international poaching ring worth millions.

[Combatting the Succulent Black Market](#)
[Plant Heist](#)

2022 MEETING SCHEDULE

Date - Speaker and Topic - Plant of the Month

March 26th	TBA / TBA	Sansevieria
April 23rd	Petra Crist / Rare Succulents	TBA
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	

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, Nathalie Nguyen - Treasurer

Moni Waiblinger - Secretary

Peter Walkowiak - 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](#)