
Obispoensis

Newsletter of the San Luis Obispo Chapter of the California Native Plant Society



March 2019

Calochortus (Mariposa lily, fairy lantern and star-tulip)

The native plant on the cover of this *Obispoensis* is a beautiful rendition of a species of the genus *Calochortus*. The painting is another of Heather Johnson's. If you're seeing it on the mailed version it will be in shades of gray. You can see the painting in the original spectacular color if you go to the Chapter website (cnpsslo.org). Heather identified the painting only as 'mariposa' and I'm not going to try to identify it to species. It often requires characters that are not present in the art work such as whether the fruit is pointed up or down. Besides, it's the genus that's discussed below.

Calochortus is a large genus (70 species) spread over the western third of the United States. The genus' range extends north into Western Canada and south into Central America. That said, California has nearly half (27) of the species. Many of the California species are endemic, such as our own Chapter flower, the Obispo star tulip (*Calochortus obispoensis*). If you note that the species name (*obispoensis*) is the same as the name of our newsletter, it's not a coincidence. Alice Meyer (our very first Hoover Award Winner) thought the species name of our endemic star tulip (found on local serpentine, i.e. Cuesta Ridge) was indicative of our Chapter area.

Calochortus is a genus in the lily family (*Liliaceae*). This large family of monocots is generally easy to recognize by its large showy flowers that often consists of three large showy petals and three usually colored sepals that often can be as large and as showy as the petals. Think lilies and/or tulips. However, that is not the case in this genus as their sepals are small. Like a lot of monocots *Calochortus* has 6 stamens and a single pistil that matures into a capsule. The genus takes these basic elements and produces at least three very distinctive flower shapes, which, in our area match the three common names most associated with this genus.

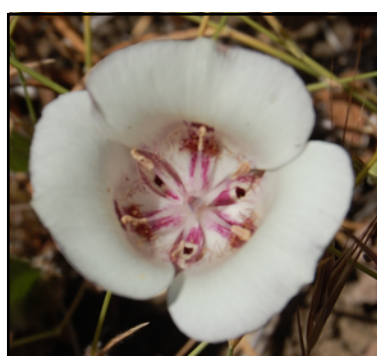
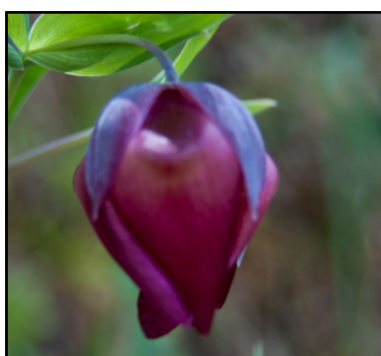
A 1998 evolutionary study (T.B. Patterson) of the genus determined that there were 4 evolutionary lines within the genus. Two of these lines correspond closely to two of the common names. These are mariposa lilies and fairy lanterns. In the fairy lanterns or globe lilies, the flowers are nodding and the broad petals come together at their tips to form a hollow globe-like structure. Petal colors are usually subdued and lacking in conspicuous spotting. Fairy lanterns tend to be found in oak woodlands or closed woodlands.

In contrast, the mariposa lilies produce upright flowers with the petal tips spread apart so as to form a cup. The individual petals are usually ornamented with conspicuous markings. The markings make obvious a large, colored (nectary?) gland that usually occupies the base of each petal. This flower form is very widespread and I've seen it in the Sierras and the Great Basin. Flowers are usually arranged as seen in Heather's painting. Obviously, Heather's painting is of a species that would belong to this group.

Star-tulips make up the third flower form. This group usually produces less showy flowers with petals that are triangular in shape and of darker colors. In addition, the petal color is often difficult to see due it being hidden by the tufts of trichomes (hairs) that cover the upper surface. The petals are flat and all in the same plain. The flowers are usually orientated vertically so the petals resemble a 3-pointed star. Our Obispo star-tulip belongs to this group. Star tulips are often found in Chaparral or mountain woodlands. For the record, there is some confusion in my mind in the application of the common names –star-tulip and the cat's ear mariposas.

The last evolutionary line is titled the cats ear mariposas. I'm not familiar with this name and when I tried to google it I got lots of remedies for curing problems with real cats ears. However, the species I know that were said to belong to this group had the mariposa lily flower configuration. The web noted that cat's ear mariposas are associated with wet lands.

According to the web many of the *Calochortus* species were used by Native Americans for food (especially their bulbs), medicine and ceremony. One source noted that the bulbs were eaten by the Mormon settlers between 1853 and 1858 when famine threatened the new immigrants to the Great Salt Lake Valley, due to crop failures. I suspect many of the species in this genus would make excellent additions to any native plant garden, especially one that lies dormant and un-watered throughout the summer drought. The problem would be getting material to plant as few nurseries keep them in stock. **Dirk Walters**



Examples of *Calochortus* forms (left to right): globe lily, mariposa lily, star-tulip, cats ear. Photos: David Chipping



MELISSA MOONEY: RECIPIENT OF THE HOOVER AWARD

Melissa Mooney was recognized with the 2018 Hoover Award at our January Banquet, an honor that highlights her commitment to CNPS' mission of understanding and documenting California's flora, focused specifically on rare plants and plant communities.

Our chapter has been the lucky recipient of Melissa's time, skill, and enthusiasm since her recent retirement as the Santa Barbara County Biologist. Melissa's involvement with CNPS-SLO actually dates back to 1993 when she served for several years as our rare plant coordinator, a position shared with Lynne Dee Althouse. Since returning to a more active role in our chapter in 2015, Melissa has served as Secretary; she's known for her thorough Board Meeting minutes and their (much-appreciated) prompt circulation to keep everyone in the loop. Melissa has also taken the lead in reviewing and updating our Chapter bylaws and guidelines, and is part of a concerted effort with Bill Waycott to 'develop' new leaders in the organization. Melissa has ably served as the SLO Chapter Council Representative, connecting us to what is happening at the State level, and she is a reliable volunteer at our local events as well as at the State Conferences.



Photo: Marlin Harms

However, Melissa's most important recent contribution has been her valuable and successful work as the CNPS-SLO Plant Communities Chair. She has instigated the effort to sample the 30 rare natural plant communities known to occur in San Luis Obispo County, as defined by the *Manual of California Vegetation*. Sampling is conducted by using Rapid Assessment techniques, and areas already sampled include the Morro Dunes Ecological Reserve in Los Osos, as well as in Laguna Lake Open Space and South Hills Open Space in San Luis Obispo. The State's annual Rapid Assessment training class occurred in Morro Bay last year following the efforts of Melissa and her sampling team. Coincidence? We think she has put our chapter on the map as an area with an enthusiastic team of CNPS members that want to document our County's beautiful open space.

We congratulate Melissa for her important contributions to our chapter and to native plants, and we wish her well in her new role as our Vice President!

A Monterey Pine Tree Threw a Seed at Me

by Linda Poppenheimer

Technically, the Monterey pine tree threw the seed at my spouse who was standing on the deck outside of our house enjoying some sun. After the loud crack of a pinecone bursting open, one papery-winged seed wafted down onto the deck. Even though we live in the Monterey pine forest of Cambria, I had never seen a *Pinus radiata* seed.

I planted the seed in a pot and placed it with the other pots containing native plant seeds I obtained at the fall seed exchange.

In preparation for collecting seeds later in the year, I have been checking out the CNPS-SLO website. Some of the things you will find on the Resources page are:

- An explanation of why native plants are important with links to more information.
- Beautiful illustrations and photos accompanied by detailed information about specific featured plants.
- *Seed Collection and Saving for the Casual Gardener*, by Marti Rutherford gives tips for collecting, cleaning, and saving seeds.

On the state CNPS website, I found a post entitled *California Native Plant Propagation* by Matt Teel that includes seed collecting how-to tips and photos. If you do not already have a copy of *Seed Propagation of Native California Plants* by Dara Emery, check out June's book sales table at the next meeting.



A Monterey pine seed with the wing that enables the seed to flutter downward slowly like a descending helicopter, enabling a further dispersal than would be allowed from just dropping a seed out of the cone. Photo by Phil Bendle

Ethnobotany Notes: Lichens

by Cathy Chambers

A few years ago, I became interested in lichens and bryophytes during the winter months when there were few flowers to look for. I took a class on lichen ID up at U.C. Berkeley's Jepson herbarium, and then another at the Santa Barbara botanic garden. I highly recommend these classes for anyone wanting to learn more about lichens. Most lichens have algae as a photosynthesizing component, others use a cyanobacteria in addition to its fungal component. CNPS has helped protect rare lichens as ranked plants, so I'm including them this month in Ethnobotany Notes.

People around the world use lichens for food, medicine, dying wool, and a variety of other uses. I have read that Native American people in the Pacific Northwest had traditionally eaten a type of *Bryoria* lichen, which was boiled or pit roasted in a special way to reduce the toxicity from the secondary compounds. I've also heard of friends who made an antibiotic salve from our local *Usnea*. Usnic acid has long been a part of commercial herbal deodorants and skin creams. There are reports that it was used for baby diapers as well. It is estimated that 50% of all lichen species have antibiotic properties.

Some lichens were used for poison, especially those high in vulpinic acid which tends to make a very yellow lichen. Lichens were also used in ancient Egypt as part of the embalming process.

Lichens are a common source of natural dyes. Indigenous people in North America made a yellow dye from the Wolf Lichen, *Letharia vulpina* of the Sierras by boiling it in water. Some dyes can be extracted with boiling water, but others require ammonia fermentation, which is steeping the lichen in ammonia (traditionally urine) for at least two to three weeks. In the Scottish highlands, various lichens yielded red, orange, brown, and yellow dyes. In Europe, a purple was extracted from *Roccella* and *Ochrolechia*. Litmus, the pH indicator is extracted from the *Roccella* lichen.

Ethnolichenology has quite a Wikipedia page. I was surprised. It is well worth looking up, if only for the 19th century Japanese painting of *Umbilicaria* lichen gathering. If this has whetted your appetite for lichens, you can find lichen walks and workshop information at the California Lichen Society (CALS) website: californialichens.org. Sylvia Sharnoff has also written about lichens and people.



Red *Usnea rubicunda* at Los Osos Oaks Reserve
photo David Chipping

SAVE THE DATE: ANNUAL SUDDEN OAK DEATH (SOD) BLITZ

The San Luis Obispo County Sudden Oak Death (SOD) Blitz will be the week-end of May 3 to 5, 2019. Training (including pick-up of sample packets and sign-up for survey locations) will be Friday, May 3, 6:30 pm at the Atascadero Library, or Saturday, May 4, 10 am at the University of California Ag. Extension Auditorium in San Luis Obispo. Sample collection will be on your own time Saturday and Sunday, May 4 and 5. Additional information will be posted on our chapter website (cnpsslo.org) and in the newsletter, or you can contact Lauren for additional information (lbrown805@charter.net, 805-460-6329).

We have had abundant and frequent rain this year, which means this spring will be an important time to survey and collect samples. There have been positive samples of SOD at the SLO/Monterey County border and we need to stay vigilant. Thank you all who have surveyed in the past, we look forward to seeing you and anyone that is just learning about this destructive disease at one of the trainings as well as in the field collecting on Saturday and Sunday. **Lauren Brown** 805-460-6329 (home); 805-570-7993 (cell)

MEMBERSHIP CORNER by Holly Sletteland

Thanks to all of you that renewed your memberships last month! We may not have found a four-leafed clover, but we are certainly lucky to have found you! It's your continued support that enables us to offer our newsletter, field trips, workshops, plant sale and more in the year ahead. It's also what helps keep our many diminutive, three-leafed native clovers, including the rare *Trifolium polyodon*, alive and well in the field. Enjoy the blooms this spring! **Holly Sletteland**, Membership chair

Albert Normandin
Gloria Brown
John & Alison Goers
Jeff Kwasny

Kathleen Jones
Lauren Brown
Peggy Heathcote

Dan & Sara Levi-Kocher
John Veres
Tim Matthews

CHAPTER MEETING March 7th 2019 - Thursday - 7:00 pm

7:00 social 7:30 program **Kiwanis Hall**, adjacent to clubhouse, **Atascadero Lake Park**
Mixer and Browse Sales Table 7:00 pm, Program 7:30 pm



The Diversity and Evolution of Cacti

Dr. James Mauseth

The native cacti of California are wonderful, but they are new-comers... cacti originated in South America and evolved there for millions of years before any cactus was able to migrate to North America. In South America, there are still cacti that are ordinary leafy trees, cacti adapted to jungles, others that are at home next to snow banks high in the Andes. Argentina has giant columnar cacti that look like California's saguaros, and nearby grow dwarf cacti that are smaller than your little finger when mature and flowering. Many cacti have spines that are modified into glands that secrete nectar: the cacti have a bargain with ants, trading a bit of sugar water for protection against mites.

James Mauseth is Professor Emeritus at the University of Texas at Austin, and a world-famous plant anatomist and cactus expert. An award-winning teacher, he has been invited to teach Plant Anatomy at Cal Poly this quarter. Jim's specialty is plant anatomy, studying the cells and tissues of cacti and comparing them to the equivalent parts of plants that have more ordinary structures typical of non-succulent plants. He has traveled extensively in South America, and is a Fellow of the Cactus and Succulent Society of America.



Saturday, March 30th, 2019, 8:30 am, Malcolm McLeod Annual Field Trip to Shell Creek and Environs, one of the outstanding spring wildflower destinations in California. Meet at the Santa Margarita Exit Park and Ride at 8:30 am. Bring plant guides or plan to purchase one during the trip. Also bring adequate water, food, and dress in layers for the weather; a hat and sturdy shoes are advised. For more information contact Bill Waycott, (805) 459-2103, bill.waycott@gmail.com.

Saturday, April 6th, 2019, 8:30 am, Carrizo Plain National Monument and Temblor Range. We will visit some of the best wildflower areas in the Monument, including some vernal pools, with an option to travel up into the Temblor Range. Meet at the Santa Margarita Exit Park and Ride at 8:30 am. Bring plant guides or plan to purchase one during the trip. Also, bring adequate water, food, and dress in layers for the weather; a hat and sturdy shoes are advised. For more information contact Bill Waycott, (805) 459-2103, bill.waycott@gmail.com.

Saturday, April 20th, 2019, 8:30 am, Caliente Ridge, Carrizo Plain Natl. Monument. We will drive through the Monument towards the Selby Camp and up Caliente Ridge (high clearance vehicle recommended). Meet at the Santa Margarita Exit Park and Ride. Bring plant guides or plan to purchase one during the trip. Also, bring adequate water, food, and dress in layers for the weather; a hat and sturdy shoes is advised. For more information contact Bill Waycott, (805) 459-2103, bill.waycott@gmail.com.

WANT COLOR? The latest edition of our monthly newsletter *Obispoensis* is available for download as a PDF file from the link below. Find out about upcoming events, field trips, local issues impacting native plants, invasives to be on the watch for, horticulture tips for growing natives, contact info and more in each issue:

<http://cnpsslo.org>

Having trouble opening the file? You need to have Adobe Acrobat Reader installed on your device. It can be downloaded here:

<https://get.adobe.com/reader>

The Garden Corner

After several years of dryness, we are finally blessed with a cold and wet winter. With all this rain it's important to go over a checklist for the Spring profusion of plant growth. Seeing flowers already showing on *Salvia*, *Ceanothus*, *Manzanitas*, and *Mahonias*, at this time, it's important NOT to prune your native shrubs. Pruning now would only remove the new flower buds and destroy an important source of nectar for the bees, birds, insects and animals.

Second on the list is do not use pesticides unless you have a severe insect infestation. Spraying would produce a situation that would put bees and other good insects at risk. Now is the time to release beneficial insects into the garden. Most nurseries start to receive these insects, such as ladybugs, at this time of year.

Third, stake trees and remove broken branches. The heavy winds are great for removing dead branches from oaks and pine trees but they can also damage young trees and shrubs. While staking, take time to inspect the root zone to make sure not to drive a stake into a main root, this would only defeat the purpose of the staking.

Next, remove the largest weeds growing closet to the trunks of tree and shrubs. Don't use Round-Up™. Large weeds can be pulled and composted. For smaller weeds, spray with straight vinegar. This will burn the small weeds and will not affect the soil. There are also several new organic based weed sprays mostly made from peppermint oil.

Last, do not rototill close to tree and shrub trunks. This weed control method works great but can cause serious damage to surface roots. Lastly, get your favorite chair and beverage ready so you can relax and enjoy your beautiful garden and the flowers to come!

Until next month, Happy Gardening; **John Nowak, Plant Sale co-Chairperson.**

PRESIDENT'S NOTES FOR MARCH, 2019

During a recent CNPS Board meeting in Sacramento, I participated in a discussion on environmental justice. A quick search in Google defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” Environmental justice addresses the phenomenon of poor communities being habitually situated in neglected, if not polluted environments, where access to clean air and water is often difficult. If we look around the state, we find underserved communities often lack modern infrastructure, access to utilities and internet, and sanitary conditions. There is also a dearth of information about healthcare, diet, and exercise. The fact is that low income communities have become marginalized because they have been denied the basic rights of clean air and water, community parks, open spaces, and educational resources.

Should CNPS have a concern for these issues? Does our advocacy for “all-things native plants” include environmental justice in its list of priorities? What do you think? At the top of the State CNPS webpage it reads, “We’re on a mission to save California’s native plants and places, using both head and heart. CNPS brings together science, education, conservation, and gardening to power the native plant movement.”

Personally, I think the strong connection between the native plant movement and the environmental justice movement is clear. A clean, pure, natural environment is everybody’s birthright, and a clean, pure, native plant environment is the essential ingredient for that to take place. As native plant lovers, we see the connection between a healthy environment and a healthy human existence; we see the relationship between clean, natural resources and quality of life. The work done by CNPS in native plant research and protection is known throughout the world for its environmental advocacy and conservation.

During the Board meeting, we talked about some simple approaches to being more “present” in the environmental justice conversation. CNPS’s commitment to maintaining plant diversity in this state (over 6,000 species of plants, a third of which are endemic), is a natural segue into a discussion about the diversity of the human family in California. We acknowledge that all species have intrinsic value and need to be secured. We give equal regard to poppies, redwoods, and bryophytes. If environmental priorities are to manifest going forward, we need everybody at the table. We need the soccer moms, the plumbers, and the farm workers to join the biologists and the philanthropists, if there is to be equitable consensus on these issues. We need to listen to this conversation and participate in its discussion. We need to acknowledge this diversity and articulate its benefits. Awareness of these issues needs to spread across all communities, so there is real agreement on environmental integrity and fairness for all.

Bill Waycott

Annual Coreopsis Hill Hike

The Annual Hike to Coreopsis Hill (in the Guadalupe-Nipomo Dunes), is scheduled for Saturday, March 23, 2019, from 9am to around noon. This hike is sponsored by the San Luis Obispo Chapter of CNPS, the US Fish and Wildlife Service, and The Dunes Center, and will be led by Jenny Langford, Lauren Brown, Dirk Walters, and other local botanists and volunteers. The hike will begin at 9:00 AM (please plan to arrive between 8:45 and 9:00), leaving from the south end of Beigle Road at the USFWS access road (fenced road). It will be a casual walk through the dunes to the top of Coreopsis Hill. This is a moderate hike, about 3 hours round-trip. Dress in layers, bring water and snacks, and have your “Dune Mother’s Wildflower Guide” by Dr. Malcolm McLeod for the trip. Long pants and closed shoes are recommended as the habitat is coastal dune scrub and there is the possibility of poison oak and ticks in the natural dune areas (we will watch for and point these out so they can be avoided). For more information call Lauren Brown at 805-460-6329 or 805-570-7993. Heavy rain cancels this trip (light rain, bring appropriate clothing).

NOTE: Pets, smoking, or alcohol are not allowed on the refuge, including the parking area, or other properties accessed during the hike (i.e., State Parks and private property). Pets may not be left in cars in the parking areas.

Directions from the north: Take Hwy 101 south from San Luis Obispo. Turn right (west) at the new Willow Road off ramp (Exit 180). Proceed west on Willow Road for about 4.3 miles, to Highway 1. Turn left (south) on Highway 1 and proceed for 2.7 miles, to Oso Flaco Lake Road. Turn right (west) on Oso Flaco Lake Road. Proceed west on Oso Flaco Lake Road for 2.5 miles to Beigle Road. Look for a 6’ tall wire mesh fence and steel gate.

Directions from the south: Take 101 north to Santa Maria and take the Main Street exit toward the town of Guadalupe. Turn right onto Highway 1 and head north to Oso Flaco Lake Road (about 3 miles north of Guadalupe), turn left onto Oso Flaco Lake Road and proceed 2.5 miles to Beigle Road (on left).

Parking: We will have people posted at the entrance of the USFWS fenced road to direct parking. The gate will be open around 8:30. Please do not park on Oso Flaco Lake Road near the gate as there is not much room and it could be hazardous. There should be plenty of room to park along the USFWS access road. The Oso Flaco Lake State Park lot is another ¾ miles west of Beigle Road, if you need to use a restroom before the hike (there are none along the hike route).

Additional Information: The Guadalupe-Nipomo Dunes-Point Sal Coastal Area contains the largest, relatively undisturbed coastal dune tract in California and was designated a National Natural Landmark in 1974. Five major plant communities are represented including pioneer/foredunes; coastal dune scrub; riparian woodland; coastal dune freshwater marshes, ponds, and swales; and active interior dunes. The flora includes many endemic plant species and the dunes habitats support numerous rare, threatened and endangered plants and animals.

THE GOOD PEOPLE WHO MAKE THE CHAPTER ‘HAPPEN’ AND HOW TO FIND THEM

President Bill Waycott (805) 459-2103 bill.waycott@gmail.com	Chapter Council Rep. Melissa Mooney mjmoon@charter.net	Field Trips Bill Waycott (805) 459-2103 bill.waycott@gmail.com	Rare Plant Coordinator John Chesnut (805) 528-0833 jchesnut@slonet.org	Horticulture & Plant Sales John Nowak (805) 674-2034 gritlys@gmail.com
Vice President Melissa Mooney mjmoon@charter.net	Chapter Wholesale Contact Linda Chipping (805) 528-0914 lindachipping@yahoo.com	Retail Sales Manager June Krystoff-Jones (805) 471-5353 junemkj@gmail.com	Legislation David Chipping (805) 528-0914 dchippin@calpoly.edu	Suzette Girouard (805) 801-4806 suzette.girouard@gmail.com
Secretary Cindy Roessler skantics@gmail.com	Conservation David Chipping (805) 528-0914 dchippin@calpoly.edu	Historian Dirk R. Walters (805) 543-7051 drwalters@charter.net	Newsletter Editor David Chipping (805) 528-0914 dchippin@calpoly.edu	John Doyle (805) 748-7190 doyle5515@sbcglobal.net
Corresponding Secretary Marti Rutherford slomire@msn.com	Education Susi Bernstein (805) 481-4692 fiddle58@att.net	Invasive Plants Control Mark Skinner mskinner@coastalrcd.org	Photography OPEN	Publicity & Web Master Judi Young judi@judiyoung.com
Treasurer David Krause (805) 927-5182 dkincmbria@aol.com		Membership Holly Sletteland hslettel@calpoly.edu		Hospitality OPEN: YOUR NAME HERE?
				Chapter Publications Matt Ritter mritter@calpoly.edu

WE ALWAYS NEED PEOPLE TO HELP OUT. OUR MISSION IS VITAL AND OUR FLORA IS AT RISK

Protecting California's Native Flora since 1965

The California Native Plant Society is a statewide non-profit organization of amateurs and professionals with a common interest in California's plants. The mission of the Society is to increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education and conservation. Membership is open to all. Membership includes the journal, *Fremontia*; the quarterly *Flora*, which gives statewide news and announcements of the activities and conservation issues, and the chapter newsletter, *Obispoensis*.



*San Luis Obispo Chapter of the
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