

---

# *Obispoensis*

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

---



APRIL 2022

# *Toxicoscordion fremontii* Death Camas

DIRK WALTERS

**About the Cover:** Death camas is in full bloom now, especially on our shrubby and forested slopes. It is a plant of the California Floristic Province which stretches from Southern Oregon to Northern Baja Mexico. The plant can reach a couple of feet tall but is usually shorter. It can also be seen in grassland pastures where they can become very conspicuous, especially after the surrounding plants have been closely cropped. The plant stands tall and uneaten while all around it is cropped because it is very distasteful and quite poisonous. Grazing animals will eat everything else before even tasting it.

The common name used in the original SLO County Flora by Dr. Robert Hoover is Star Zygadene, although the name most used around here was simply Zygadene. Zygadene is the anglicized former genus name, *Zigadenus*. But the plant has many other common names. In fact, every new reference I consulted seemed to present a new common name. Fremont's Death Camas is the common name used in the Jepson Manual. Fremont's name is applied to lots of California plants and refers to the geologic and floristic expeditions led by Fremont that made a lot of original collections of California plants. Star Lily is a prettier name listed in many of the older books, but it was transferred from a Midwestern species. I also think it's misleading due to its reference to the lily family to which it is no longer affiliated. I think names such as squirrel food, wild onion and hog's potato shouldn't be used at all as they hide how poisonous the plant is. Hog's Potato is interesting because it indicates that swine aren't harmed from eating the bulb, and it seems they aren't, but cattle, sheep and horses are extremely susceptible to its poison. Names I think more appropriate include death camas, poison sego, white camas, and poison lobelia as these refer to its poisonous foliage and bulb. The primary poisonous principle, zigacine or zigadenine, is a member of a class of relatively complex alkaloids known as steroid alkaloids. Zigadenine is related to alkaloids found in *Veratrum*, another kind of poisonous monocot common in Sierran mountain meadows. Unlike *Veratrum*, death camas alkaloids have not been used in medicine as they cause severe nausea and vomiting. The poison is apparently not fatal to humans, but it does make them very, very sick. Members of the Lewis & Clark expedition became extremely ill after death camas bulbs were ground into flour and then cooked and served. My sources didn't indicate that anyone died. Another reference tells the following story "Mr. F.V. Coville records a crafty practice of the Klamath medicine men, who would make a mixture of tobacco, dried iris root and death camas and give it to a person to nauseate him. Then they would charge him a fee to make him well again!". I guess one must admit that is a 'medicinal' use by humans. The name, Poison Lobelia, was used by farmers in the Central Sierra who noted that death camas caused symptoms in their farm animals like those caused when their animals ate lobelia plants.

Death camas produces a beautiful, 6-pointed, cream-colored monocot flower in a branched (panicle) or unbranched (spike) terminal inflorescence. The perianth (sepals and petals) can reach one-half an inch or more in diameter. Flower size varies somewhat depending on the growing conditions. There are 6 stamens and a single 3-chambered ovary in the center. Beautiful, 3-merous flowers are typical of many relatively similar appearing monocots that historically were all placed in the single large Liliaceae family (ca 280 genera and 4000 species). Subgroupings of species might share a single different character, but the rest would match the typical lily set. Early botanists seem to dislike such large groups and have suggested several ways to split the lily family up, but none had caught on. Then in the middle of the last century, the structure of DNA was discovered and a process of sequencing the component bases was discovered and perfected. Add to this the use of computers to organize the huge amount of data into clusters. This procedure has led to the break-up of the Liliaceae of old into several smaller families. One such family is the Melanthiaceae (False Hellebore family) and is where *Toxicoscordion* is now placed. A look at the Key to Families (by David Keil) in the Jepson Manual will highlight the family recognition problem with the new Monocot family definitions. The new strictly defined Liliaceae and the segregate family Melanthiaceae come out numerous times in the key with no single character or character set separating them. In fact, the key to family is close to being a key to their now separate genera.

Death camas is a beautiful plant that grows from a bulb and produces lots of pale green foliage. According to the internet, it grows easily from seed. I suggest seed is the best way to bring it into a native plant perennial garden as the bulbs should be left where they are growing.





## Chapter Monthly Meeting April 7, (via Zoom)

### What can pressed plants tell us about the past, present, and future of California's Flora?

Natalie Love: Cal Poly State University

**Registration: Register in advance for this meeting: [https://cnps-org.zoom.us/meeting/register/tZYtfumsrjsvG9XZeB9jyi3u\\_d9F9r5qdVRr](https://cnps-org.zoom.us/meeting/register/tZYtfumsrjsvG9XZeB9jyi3u_d9F9r5qdVRr)**

**After registering, you will receive a confirmation email containing information about joining the meeting.**

**Summary:** In April, former McLeod scholarship recipient Dr. Natalie Love will be joining us to talk about pressed plants and the importance of herbaria. California's herbaria house more than two million preserved, pressed plant specimens. Collectively, these specimens provide a wealth of valuable information about the California flora. They can tell us about the past history and the current distribution of plants in California as well as provide us with a way to predict how climate change will affect plant species in the future. In this talk, Natalie will discuss the importance of herbaria as well as highlight her own research in which she used herbarium specimens of the charismatic mountain jewel flower (*Streptanthus tortuosus*, Brassicaceae) to study the impact of climate change on the flowering time of this species.

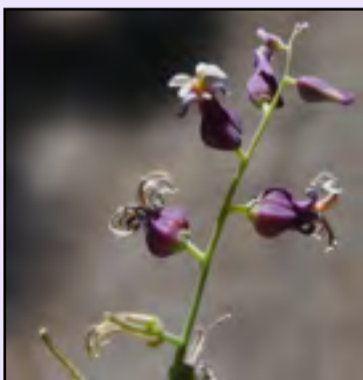
Natalie earned her B.S. and M.S. at Cal Poly, San Luis Obispo and her PhD at UC Santa Barbara in Ecology and Evolution.

Natalie provided this photograph of a typical herbarium plant sheet. At the bottom, right side, is the signature of the famous botanist Alice Eastwood, who identified the plant as '*Streptanthus*' collected from Yosemite Falls on July 25, 1923. The plant was entered into the California Academy of Sciences Collection as accession 76557. The plant was entered into a newer database with a bar code, top right.

Robert E. Preston further described the plant as '*Streptanthus tortuosus*' in 1987. Robert Preston included this plant in publishing "Pollination Biology of *Streptanthus tortuosus*" Madroño Vol. 41, No. 2 (April-June 1994), pp. 138-147.

In 2010 the plant was examined by Dr. Ihsan Ali Al-Shehbaz who is Senior Curator at Missouri Botanical Garden and considered a world authority on the Mustard family.

The sheet also provided a photographic color-correction patch and size scale.



The Hoover Herbarium has three collections of *Streptanthus tortuosus* from SLO County, all from the Rocky Butte-Pine Mt. area on the ridge behind San Simeon. Dr. Keil notes that a very few plants were found on rhyolite bedrock. The photograph on the left was taken in the Clover Meadows area of the High Sierra, and might be a bit different from the SLO County plants, but is probably much like the original state of the Alice Eastwood collection. The herbarium sheet obviously fails to retain the original colors, but now some botanists create color photographs of freshly-collected and mounted plants.



## April 23rd, 2022 Plant Sale: Call for Volunteers

The San Luis Obispo Chapter of the California Native Plant Society (CNPS) is holding a Spring / Earth Day plant sale. Most sales will be "On-Line" starting in early April. There will be books, tee shirts, additional plants for sale and more. The Pick-Up Event will be on April 23rd at Pacific Beach High School on Los Osos Valley Rd. in San Luis Obispo from 10:00-1:00. **We are looking for volunteers to help on the morning of Saturday, April 23rd. We need 5-8 individuals willing to arrive at 8:00 and to assist in many ways: to pull plants, organize order and assist in sales. With the current Covid 19 guidelines, we ask that each volunteer be vaccinated and to wear a mask at all times when around the public.** Please contact John Doyle at: [doyle5515@sbcglobal.net](mailto:doyle5515@sbcglobal.net) or 805.748.7190. Thanks!!

## Successful Confiscation of Poached *Dudleya*, by Marlin Harms

On a late-February Saturday afternoon Dennis Sheridan and I went to a favorite spot to search for flora and fauna. As we started to walk away from our car, we passed a parked pickup with several masses of *Dudleya* plants out in the open and a plastic bag full of *Dudleyas*, as well as an ice chest. Dennis took a couple of photos of the loot and license number and, after getting away from the vehicle, I called 911 to help me report poaching. (A much more direct number is at Cal-Tip web site, 1-888-334-2258.) I got transferred eventually to the right person to make a report. We could see people at some distance from us and they eventually went back to their truck and drove away. But later in the afternoon I got a call from both a Dept. Fish & Wildlife official and a CA State Park officer that the suspects had been stopped, four of them were cited for violations, including poaching other species,

and the plants had been confiscated. The next week, at the suggestion of Dave Chipping, I followed up with the officers who had called me back to check on disposition of the plants. The state park officer suggested that the poaching was probably not part of a large-scale operation like we've seen photos of from northern California since the scale was smaller, they didn't try to hide the plants, and he said they even found some iceplant in with the *Dudleya*. He also assured me that the plants were in care of resources people who would re-plant them. Later I talked to John Sayers, state park biologist who had received the plants, and he said they intend to separate them and grow them in pots until best time to plant them next season--Marlin Harms



### Thank You to New and Renewing Members



Dale Ball  
Shelley Billik  
William Bouton  
Robin Browndorf  
Kitty Connoly  
Charlene Dehaven  
Matthew Delaney  
John Egger  
Lynda & Joe Flynn  
Liz Gaspar

Beverly Gingg  
Suzette Girouard  
Betsy & Ricardo Gomez  
Liana Harlan  
Christine Heinrichs  
Deborah Hillyard  
Steve Junak  
Erik Layman  
Dan Levi  
Margaret Lindt

Lisa Ludovici  
Diane Mahan  
Tim Matthews  
Wallace McCray  
Heather Moine  
Maria Murrietta  
Mardi Niles  
Albert Normandin  
Betsy Parker  
Kirsten & Ruth Ann Pearsons

Sandra & Louis Pitelka  
Patricia Price  
Evan Rathje  
Susan Reddy  
Holly Sletteland  
Kyle Suchy  
Sharif Taha  
Jean Wall  
Todd White  
Marcia & Hartmut Wise  
Bob Zwissler

### CALL FOR COMMITTEE MEMBERS!

Did you know that our chapter supports student research through an annual scholarship program? The **Malcolm Mcleod scholarship fund** is one way in which our chapter supports young botanists and ecologists by providing direct funds to students for research projects. Each June, our annual scholarship recipients present their work as part of our regular speaker series. In 2022, our chapter is going to revise and update the scholarship guidelines for the Malcolm McLeod scholarship, with a primary emphasis on ensuring access to more diverse projects and students at our local university and community colleges.

If you are interested in participating in committee discussions that will inform these revisions to our scholarship guidelines, please email [knnelson.nativeplants@gmail.com](mailto:knnelson.nativeplants@gmail.com).



Photo: Most of the San Luis Obispo contingent to the 2018 CNPS Conservation Conference in Los Angeles. Our chapter financed some of the student research projects and also underwrote some student expenses in attending the conference,



## DROUGHT-INDUCED MORTALITY IN BLUE OAK WOODLAND

The major drought of 2013 had a terrible impact regarding water requirements on Blue Oak living at the margins of its range. Highway 58, west of San Juan Creek, marks one of the transitions from Blue Oak savanna to California Juniper woodland. As water flows downhill, oaks high on hillside slopes received insufficient water and died. The above photographs are on Highway 58 just west of the junction with La Panza Road, and show the mortality revealed by the loss of canopy cover. The current drought is far more severe in regard to maintaining water tables that can be reached by the roots of the oaks, and we expect an increase in mortality. Such mortality was not as evident west of Shell Creek, but can be expected during the current extreme drought.

**If you are looking for a project, locate some oaks you suspect might be in jeopardy, photograph them and also locate them on Google Earth where you can use the 'time tool' to see how your chosen area has been sustained. Then watch your population over the next year or two and record their condition.**



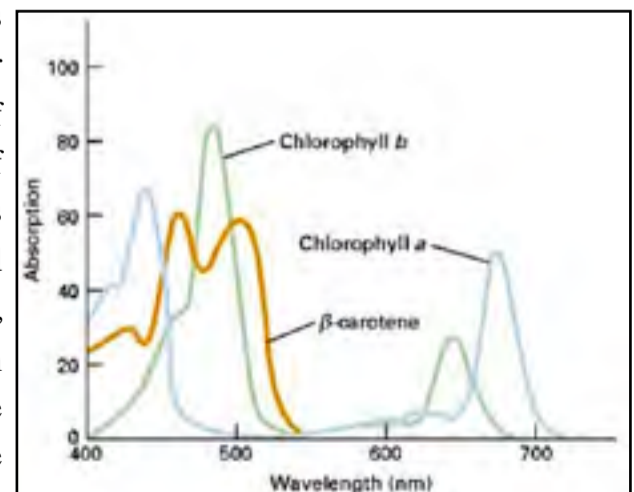
### A Call for Articles and Photographs from Chapter Members

Folks! I am sure a lot of you have something to share with the rest of us in the Chapter. We welcome Gardening Hints and Anecdotes and even Horror Stories, Photographs and photo-essays of plants in the garden and in the wild, stuff on observed pollinators, undiagnosed plant diseases, what grandma did..... you get the idea, I would like to have a contributed photo of the month, a contributed gardening tip for the month, water saving tricks, and anything else that would be of general interest. **Send any contributions to [dchippin@calpoly.edu](mailto:dchippin@calpoly.edu)**

### Pink Oak Leaves



Pink leaves sprouting on Coast Live Oak in the Los Osos Elfin Forest are NOT caused by disease or insect damage, but by the introduction of photosynthetic compounds getting a tiny bit out of synch. In most leaves the red and green pigments arrive in the new leaf at the same time. The red pigments are anthocyanins converted from sugars, and absorb light between 460-520 nm. Green chlorophyll comes as an 'a' and a 'b' type, the former optimized for absorbing violet and orange light, and the latter for absorbing blue and yellow light.





## Lichen of the Month: *Usnea rubicunda*

This erect-shrubby to sub-pendant lichen is found growing on twigs and branches, where it turns from green in the rainy season to red-orange in the summer. It is especially common in shrublands around Los Osos. It has a broad distribution throughout the world, and is very sensitive and threatened by air pollution. If you want to verify the identity, pull apart one of the branches and you will see a white, semi-elastic thread inside. The genus generally contains usnic acid, which has antibiotic and anti-fungal properties and can be used in the emergency treatment of surface wounds. Another reason to like a lichen. (photo by D. Chipping)



## Some possible wildflower locations in a year of extreme drought

I don't think any of us expect much of the spring wildflower season, and already, at the time of writing this article in mid March, whole areas are turning brown and sprouted annuals are withering without flowering. However there may be places that will have some sort of interesting display, so what criteria should we all use in planning trips?

First, rainfall from that single 'big' event was largely on the hills west of the Salinas River, and fell off quickly toward the east. The Carrizo Plain got very little rain at all. So for a start, we have limited our search to the western edge of the Coast Range as our first criteria. However Shell Creek has a nice display, as of March 24th (see photos at the end of this document).

Remembering that there was a period of hot weather, south-facing slopes dried out quickly. although in soils with a reasonable permeability, some shrubs may have been able to quickly store enough water to bloom later in the year. North-facing slopes, especially those that are both high and steep, would have remained in shadow and retained a lot more water, and so this is our second criteria.

Here are a list of places where you might find some flowers in bloom: (1) The Cerro Alto loop from the campground to the buried cable route up the hill. This is a fairly steep climb, and has an interesting assortment of shrubs; (2) The Rinconada Mine Trail, turning right where the trail divides and stopping at the old pond site. This is a good place to look for serpentine-loving plants; (3) The Coon Creek trail in Montana de Oro State Park; (4) The north-facing slopes of the South Hills in San Luis Obispo, where fractured serpentine bedrock allowed plants that stored water for later use in their corms and bulbs. Last April had a very nice display. I recommend entering the area from the western end of Mitchell Drive; (5) Reservoir Canyon in San Luis Obispo along the creek; (6) The Three Bridges Oak Preserve in Atascadero, which is mostly on a north-facing slope. As for flower displays on south facing slopes in the Carrizo Plain, in the immortal works of Don Viti Corleone, "*forgetaboutit*".

## Bolander's Monkey Flower *Diplacus bolanderi*

This small monkeyflower was photographed in the vicinity of Rocky Butte, along the ridgeline of the Santa Lucia Mountains east of San Simeon. It is similar to *Diplacus rattanii* and *Diplacus fremontii*, both of which share the general form and coloration but only have one flower on each inflorescence, unlike the two seen on *D. bolanderi*. *Diplacus congdonii* is a similar color, but is a smaller plant with small flowers that have the appearance of five almost identical petals. This set of small magenta flowers appear to be fire-followers, and, as such may not be seen very often.

And is it just me? I am darned if I can ever find a monkey face in a monkey flower

*Diplacus congdonii* Photo  
Keir Morse (CC BY-NC-SA  
3.0)



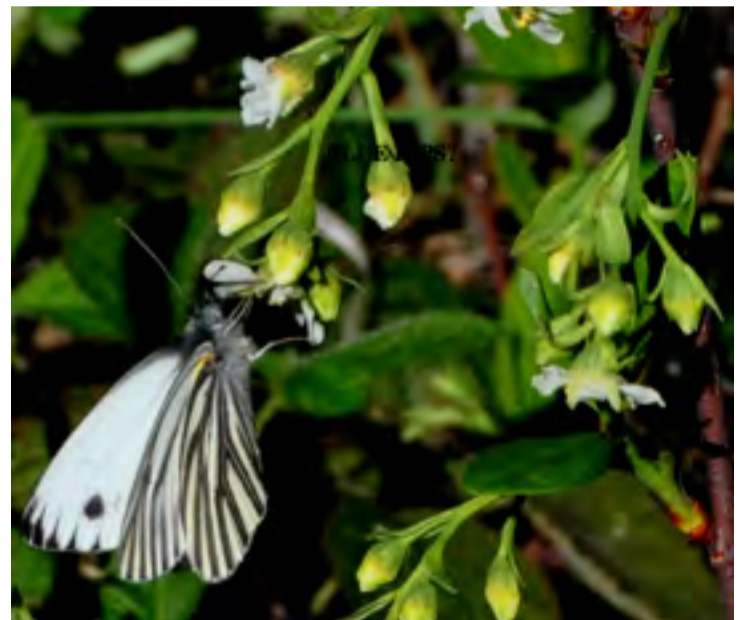
*Diplacus bolanderi* Photo D. Chipping



# *Oemleria cerasiformis* Osoberry



Osoberry is a shrub in the Rose Family, to be found in shaded and damp places along the coast and through the Santa Lucia Range. The plant used to be called *Osmaronia cerasiformis*, and Hoover described it as “rather common”. I have seldom seen it in flower, and as it is usually tangled up in other vegetation, it is easy to miss. One plant lies on the south end of Bridge 5 on the Coon Creek Trail, and some years I cannot locate it, The photographs of the usually pendant flowers were taken at that location, and that of the fruit from the Cerro Alto Trail east of the campground. It has an early flowering that starts in February, but may continue into May. The plant is summer deciduous. The photograph to the right shows a Margined White butterfly (*Pieris marginalis*) nectaring on the pendant flowers. (photos David Chipping)



## More shrubs of the Rose Family from Cerro Alto

The north-facing slope above Cerro Alto Campground has several more shrub species belonging to the Rose Family. These are Mountain-mahogany (*Cercocarpus betuloides* var. *betuloides*), Holly-leaf Cherry (*Prunus ilicifolia* var. *ilicifolia*), and Chamise (*Adenostoma fasciculatum*). I would have expected Ocean Spray (*Holodiscus discolor* var. *discolor*) but I have not seen it at this site, and there are no recorded collections from the Consortium of California Herbaria, except for one down-canyon from the area. Toyon (*Heteromeles arbutifolia*) is also present on the slope. (photos David Chipping)



LEFT Holly-leaf Cherry (*Prunus ilicifolia* var. *ilicifolia*), CENTER (*Cercocarpus betuloides* var. *betuloides*) and RIGHT Chamise (*Adenostoma fasciculatum*). (photos David Chipping)

# The Challenges of a Back Yard Seed Producer

Marti Rutherford

For the past several years my garden has been the source of many of the seeds available at the plant sale. It's been fun. I love seeing the seeds germinate, the transplanting and the seed harvesting. I can't say I really love the watering but that is part of the process. This year has been especially challenging and this is a call for those who are interested in the seed exchange and the promotion of gardening with native plants to help out this year.

The seed year started out great. I like to germinate seeds in those 6x12 germination trays. I have very little luck with direct seeding. I started with seven of those trays. I generally plant one species in a row of six. So, lots of seeds, lots of species represented. Granted, there were a few duplicates. I am trying to increase the numbers of a few so that I will have more varieties for the sale. I focused on wildflowers since those seem to sell best. Besides, I don't have room in my garden for many more permanent plantings. I did have a few edibles thrown in, seeds from my lettuces and even apple seeds from that Thanksgiving pie. I like to experiment.

I planted my seeds over several days the last part of November. I used a very porous seed starting mix which is great when it's cool and a bit rainy. It's not so great when the rains stop and the temperature is in the high 70s. It was a struggle to keep things appropriately moist and I probably lost some seeds because of my watering regime.

Even with losing some species completely, many germinated well over the next two months so I had lots of little ones to transplant. And yes, I had to buy lots of bags of soil. But I figure it's my hobby and I rationalize that I spend far less than my husband does on golf. I ran out of space on my tables. It was so satisfying to see all those little plants.

The rains were gone and watering became a daily chore. As I said, I don't love the watering.

And then the birds came. I love watching the birds enjoying my garden and bathing in the water bowl that I keep filled. This year I have less love. I have grown wildflowers for several years now with little bird predation. This year is so different. I noticed them first on the miner's lettuce, the cream cups and the baby blue eyes. I searched out my hoard of those little mesh bags that some fruits and vegetables come in. I carefully slipped them over some of the pots with what must be the tastiest plants. But the birds were not done. It's like they discovered the buffet table overnight. I went out one morning to find many of my plants reduced to little nubbins.

Many years ago I tried vegetable gardening. To try to save some of those crops from the insects I purchased row cover fabric. I still had some of that and pulled it out. So my tables were now a sea of white, often billowing in the wind. Row cover protected the plants from the birds but it made it a pain to water. I would have to carefully uncover the tables, water, and then recover. It was time consuming. Not all of my plants recovered and I lost many little plants. It makes me more aware of how amazing it is that anything survives out there in the wild and why the plants produce so many seeds. Very few probably evade the birds and the bugs once they germinate.

As the plants grew I realized that the row cover was damaging the taller plants. I needed to somehow raise it off the plants. Perhaps it was the billowing in the wind that was the damaging thing but stems of the phacelia were broken or bent, the lupine could not grow tall. I tried to lift it off the pots but I realized I needed more design expertise and maybe some carpentry skills. And then the plants started to flower. How were the pollinators going to fertilize? I was after seed, not just pretty blooms. So the row cover is now off and I am just hoping that the plants are mature enough to survive and produce seed.

The bottom line in all this is that there may not be much wildflower seed available at the seed sale this year. If you are willing to help by collecting seed from what you have managed to grow then please do so. I am expecting that we will be having a seed exchange this year. If you are willing to participate that would be wonderful. If you are willing to let me have your left over seed to have at the plant sale that would be wonderful too. We sold lots of seed last year. If that seed grew in peoples gardens, we were supporting our native biodiversity. That is a good thing.

I plant more than wildflowers. I have been trying over the past several years to germinate manzanita. I use a different process for that. Those of you familiar with manzanita know that those little apple like balls hold several seeds. In some species they are fused but in some they are easily, nor maybe not easily, separated. So I spend hours separating those seeds. Then I soak them in a



## The Challenges of a Back Yard Seed Producer (continued)

mixture of liquid smoke and rainwater . The rainwater has been heated to between 180 and 200 degrees and I add it to the seeds in little medicine cups and let them soak overnight, then plant. I planted them on January 10<sup>th</sup>. Apparently the rains were done. So I had to water a lot. As I mentioned above, keeping the right moisture level in the seed starting medium is challenging. I usually cover the trays with a thin layer of vermiculite. But I had little left in the bag and was very surprised to find that it was not readily available in the small bag that I needed. (Pandemic interference again?) The vermiculite helps hold the moisture in. I know it takes a while for these to germinate so I tried to keep it sort of moist. After a month I was thinking I had another failure year. I have had only one good year in my manzanita growing attempts but it's fun to try and I love manzanita. It was really hot, then really cold. The winds blew hard enough to blow gallon pots off my tables. It blew the screen protector that I had on the trays off. My rocks were not heavy enough or I would forget to put them back on after watering. At the end of February I was about ready to give up. We had had a night of especially strong winds. One of my trays was upside down on the ground with all the soil dispersed. Why keep this up? They are not going to germinate. But on March 1<sup>st</sup> I spotted a tiny bit of green. By March 4<sup>th</sup> I counted over 30 seedlings and today I have 67 from 11 different collections. I know from experience that a lot of these little seedlings will die. But just maybe I will end up with a few more manzanitas to add to my already full garden, so there have been positives among the negatives this year. The Clarkias must not be tasty because there has been no predation on those. I have some baby blue eyes, cream cups, poppies and tidy tips that have survived so far and are blooming. And I have all those baby manzanitas.



### Invasive Species Report Redstem filaree *Erodium cicutarium*

*Erodium* is in the Geraniaceae family, its name derived from the Ancient Greek 'geranos', meaning "crane." It is an aggressive winter annual with alternate compound leaves to 4 inches, with ovate leaflets having deeply lobed margins. Plants have a taproot. Above ground they make low growing rosettes with reddish stems. The pink flowers have five separate petals. The fruits form distinctive beaks over one inch long resembling a stork's head and beak. The beak will coil and drill seeds into the soil. They proliferate in disturbed sites including roadsides, fields, rangeland, cropland and disturbed wildland.

*Erodium* is native to Eurasia and was already in the western US. before the arrival of the Spanish in 1769 and is widespread throughout California. Although it has limited invasiveness, filaree can be a dominant cover in rangelands especially after a burn. In wildlands filaree forms dense individual mats that compete with spring wildflowers and native grasses.

Manual removal before the development of fruits is a good way to remove filaree. Chemical control is partially effective with either dicamba, glyphosate, chlorsulfuron or imazapyr.

Mark Skinner



*Erodium cicutarium* Photo Marlin Harms

(Editors Note: There are several similar species of *Erodium*. Filaree is considered an excellent forage plant on dry rangelands throughout the west, in several cases being deliberately introduced by ranchers as it provided good spring feed following fall rains. After dry winters with little rain, *Erodium* can provide a pink coloration on hillsides of the eastern county, especially when most grass thatch has been removed by grazers.)

#### MISSED THE MEETING? YOU CAN VIEW SOME CHAPTER'S PAST PRESENTATIONS ON YOUTUBE

YouTube Videos of some past ZOOM presentations of our chapter's monthly meetings are available. I would suggest YouTube search of 'CNPSSLO', 'CNPS SLO' AND 'CNPS-SLO' as different programs show up on each search letter combination. You can also see the videos by clicking on the YouTube icon on the main page of our chapter website. It takes you directly to the selection of presentations that have been recorded.



## From the President’s Desk: Special Status Plants in the Nipomo Mesa Area, with a focus on the Dana Reserve Project Site Part 1: The Rarest of the Rare

In a very short while (we are told early May), the Dana Reserve Project Draft EIR will be released for public review. As you know, CNPS SLO Chapter has taken a strong position against this project that proposes development of 1,290 residential units on a 250-acre site (located southeast of Willow Rd and Hetrick Avenue in Nipomo). It is situated at the very edge of an ancient sand dune that contains unique resources, some of which are found nowhere else in the County. As presently conceived, the project threatens thousands of mature coast live oak trees on a unique dune habitat with destruction, making a mockery of the County's Native Tree Protection Ordinance. Five proposed neighborhoods, including 637 residential units, are in oak woodland or chaparral habitats. At the present time, only 24 acres of oak woodland is proposed to be preserved on site. In addition to this, the project would significantly impact recovering maritime chaparral (some call this Burton Mesa Chaparral) on site, including several rare and/or special status plants. This natural community is one of the rarest in San Luis Obispo County and is rapidly decreasing on the Nipomo Mesa. In this article, we highlight four of the special status plants that occur on the project site. Next month, we will address another set of species and other issues. We urge you to pay attention to this project and contact your Supervisorial representatives about this project. While the impact information below may change (we will update you if it does), please use the information below to begin discussions of this project and its impacts. The table below lists the four taxa to be discussed in this article. You can get more information at the County’s website: <https://www.slocounty.ca.gov/Departments/Planning-Building/Grid-Items/Community-Engagement/Active-Planning-Projects/Dana-Reserve-Specific-Plan.aspx>

Species Name	Common Name	Status/ CA Rare Plant Rank
<i>Arctostaphylos rudis</i>	Sand Mesa manzanita	1B.2
<i>Ceanothus impressus</i> var. <i>nipomensis</i>	Nipomo Mesa Ceanothus	1B.2
<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Pismo Clarkia	FE/CR1B.1
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa Horkelia	1B.1

**Sand Mesa manzanita, or Shagbark manzanita, (*Arctostaphylos rudis*)** is an erect evergreen shrub with reddish-grey shredding bark and bright red fruits that occurs in chaparral and closed cone pine forest. The name *Arctostaphylos* derives from the Greek *arktos*, a bear, and *staphule*, a grape, referring to the fact that bears feed upon the berries (McMinn 1939). It is one of the manzanitas that has a burl, which is a woody underground root-like structure at the base of the stem that holds dormant buds. This structure allows the manzanita to adapt to fire by resprouting after the fire burns most of the upper portion of the plant. The plant ranges from Burton Mesa in the Lompoc area of Santa Barbara County to the Nipomo mesa in San Luis Obispo County, where it has become “severely reduced” according to the CNPS Rare Plant Inventory (online edition, v9-01 1.5). It also occurs in Nipomo Community Park. It usually flowers from late October to February.



This plant has a California Rare Plant Rank of 1B.2. Biologists found more than 300 individuals of this plant scattered in maritime chaparral across the Dana Reserve project site, and most would be subject to removal if the project is approved as proposed in the Notice of Preparation.

**Nipomo Mesa Ceanothus , Nipomo Mesa Ceanothus (*Ceanothus impressus* var. *nipomensis*)** is a low shrub occurring on sandy soils in chaparral mostly on the Nipomo Mesa in San Luis Obispo County. The variety *nipomensis* was first described by Howard McMinn in his lovely book on the Ceanothus (McMinn, Santa Barbara Botanic Garden, 1942). It is reported by McMinn to have a spread of up to 20 feet, has larger leaves, and is a bit more open than the typical variety *impressus* that grows on Burton Mesa in Santa Barbara County. It flowers from February to April. The above photos were taken this year on the Nipomo Mesa.



This taxon has a California Rare Plant Rank of 1B.2. Biologists found fifty individuals of this plant in the northeastern portion of the project site, and it appears that all would be affected by the project as proposed in the

Notice of Preparation. There are only a few scattered localities of this plant remaining on the Nipomo Mesa; notably, one is very close to the freeway offramp!



**Pismo Clarkia** (*Clarkia speciosa* ssp. *immaculata*) is a small annual herb occurring in sandy openings in chaparral and oak woodlands in San Luis Obispo County. This plant was the subject of our cover story in *Obispoensis* in June 2018, and Dirk Walters mentioned that it grows in the area surrounding Mardi Niles' home – perhaps that's why she did such an amazing job preparing a watercolor image of the species. Dirk mentions that the range of the subspecies is the southern Edna Valley south through the foothills and valleys of the southern San Luis Range, ending east of Pismo Beach and Arroyo Grande (Huasna Valley). I find it interesting that since the late 1980's it has been found on the Nipomo Mesa, as Dirk also mentions that it grows on the sterile sands derived from weathered white sandstone found in the area of Pismo and Arroyo Grande. Some key identifying factors are the lack of red spots on the petals, and the pure white of the lower portion of the petals.



This taxon has a California Rare Plant Rank of 1B.1. In 1978, it was designated a California Rare species and in 1994 it was listed as Endangered under the federal Endangered Species Act (CNPS Rare Plant Program, 2022, online edition, v9-01 1.5). Biologists found eight micro-populations on the Dana Reserve project site totaling 0.22 acres, in the central portion of the study area along the main access road. When the CNPS team visited the site in June of 2021, we were told they could build the road to avoid these locations, but the development would still alter the surrounding ecosystem, perhaps irreversibly. Our Rare Plant Chair John Chesnut says this about the Pismo Clarkia:

“*Clarkia speciosa* ssp. *immaculata* is an annual which grows as a shifting “metapopulation” popping up in shifting and changing niches within a larger suitable landscape. When discovered occurrences have been “ring fenced” to protect the temporary growing area in land developments, the population has crashed, and the species blinked out.

The specific microhabitat requires “intermediate disturbance” from ground squirrel mounding, side cast ground disturbance, or light grazing. It has proven exceptionally problematic to maintain the population without a larger landscape of shifting impacts. It is not a plant that can be put in an enclosure and thrive.”

**Mesa Horkelia** (*Horkelia cuneata* var. *puberula*) is a low perennial herb known to occur on sandy soils in chaparral or sage scrub. It has pinnately compound leaves and white rose-like flowers, and is related to the genus *Potentilla*, which it was formerly ascribed to (see Robert Hoover's *Vascular Plants of San Luis Obispo County, California*). There are three varieties (or subspecies to some) in our area, var. *cuneata*, var. *sericea*, and var. *puberula*, the latter being the subject of this writeup. The varieties are difficult to distinguish and are known to intergrade, but they are differentiated by the pubescence on the leaves, the nature of the glands, and the hypanthium inner rim. This subspecies, which extends south to the Los Angeles basin, generally has sparse glandular hairs and a glabrous inner rim on the hypanthium. Now, I imagine you might be asking “What is a hypanthium?” In 2010, our own Dirk Walters answered this and a few more questions about *Horkelia* in the June *Obispoensis*. He explained it as a cup-shaped structure found below (*hyp-*) the flower (*anthium*). Dirk also mentioned that the plant spreads by a thick, branching, horizontal underground stem called a rhizome that produces an irregular surface covering. It might do well if you were to plant it in sandy soils.



© 2022 Ron Vanderhoff CC-BY-NC 4.0

This plant has a California Rare Plant Rank of 1B.1. Biologists located approximately 7,000 rosettes across the Dana Reserve project site, mostly in Oak Woodland. As with the other species discussed above, many occurrences in the chaparral and oak woodland would be lost if the project were to be approved as proposed.

**Next Issue: Dana Reserve Project Site  
Part 2: The Watch List Species**

## Save the Dates: 4/29 – 5/1 San Luis Obispo Sudden Oak Death Blitz

SOD Blitz Station in front of the SLO County Department of Agriculture, 350 N Main St, Templeton, CA

SOD Blitz Station in front of SLO County Department of Agriculture, 2156 Sierra Way, San Luis Obispo, CA.

Contacts: Kim Corella [Kim.Corella@fire.ca.gov](mailto:Kim.Corella@fire.ca.gov)

Cindy Roessler [skaaantics@yahoo.com](mailto:skaaantics@yahoo.com)

Details will be posted on social media and website soon or see [https://nature.berkeley.edu/matteolab/?page\\_id=148](https://nature.berkeley.edu/matteolab/?page_id=148)

The Sudden Oak Death SOD Blitz Survey Project is a 15-year old citizen science program designed to map the distribution of SOD in California, thus identifying locations where native oaks should be treated to prevent SOD infection and death. To find out more about the SOD Blitz, please go to [sodblitz.org](http://sodblitz.org). Local SOD Blitzes are for people of all ages interested in learning about the ecology of forests and willing to spend a couple of hours in an oak woodland. Every year, in the Spring, several SOD Blitzes are organized in local communities throughout Northern and Central California. Find the [time and location of the 2022 SOD Blitz near you](#).

### Why the 2022 Blitzes are so important:

- 1- The SOD pathogen is exotic and invasive, thus every year its distribution changes and new outbreaks need to be mapped. While SOD is lethal to oaks, it spreads thanks to apparently innocuous infections of California bay laurel leaves.
- 2- When a local outbreak is mapped thanks to a SOD Blitz, oak owners in the area will be alerted their oaks are at risk. Preventing oak infection by SOD will also mitigate wildfire risk and hazards caused by tree failures.
- 3- Multiple pathogen strains cause SOD. While the NA1 strain is now naturalized in California oak woodlands, the more aggressive European EU1 strain has been detected in a single California location and is currently under eradication. Any further early detection and eradication of this new strain may save California from a worse SOD outbreak.
- 4- After multiple dry years in a row, the SOD pathogen survives only on a small number of California bay laurels. Identifying those bay laurels that are still infected by SOD in 2022, after 4 dry years, is a unique opportunity to identify bay laurel trees that may be removed to flatten the SOD epidemic curve. This cannot be done in rainy years because too many trees are infected, so 2022 offers a not- to-be-missed opportunity!

To find out detailed information about the logistics of a SOD Blitz by emailing local SOD Blitz organizers listed on [www.sodblitz.org](http://www.sodblitz.org)



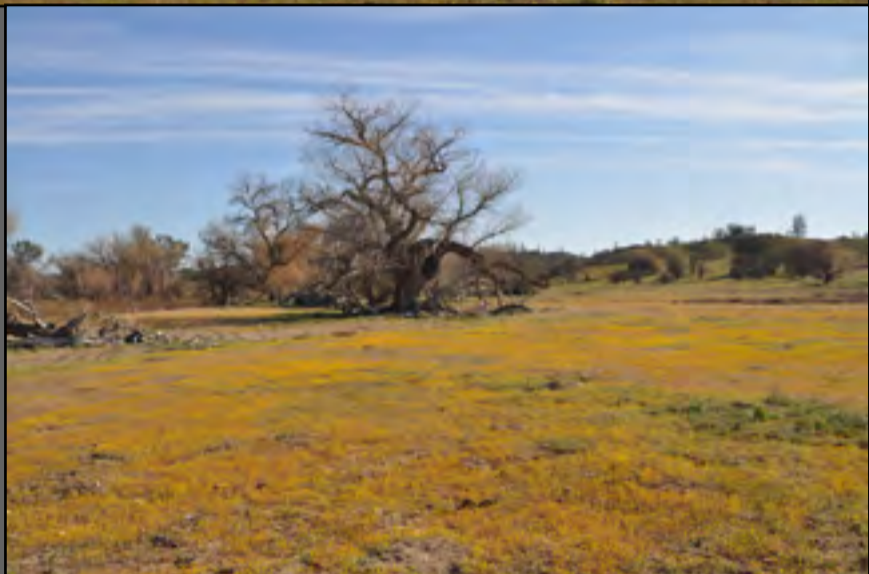
Yellow/ black/ dead tissue symptomatic banding on California Bay leaf: Photo U.C. California



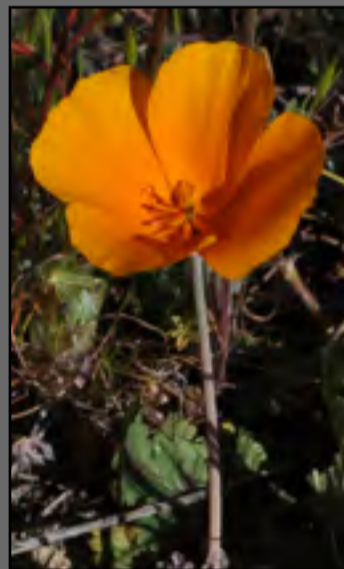
# Just as we were going to 'press' .....

## Shell Creek on March 24th

Dirk Walters and David Chipping went out to Shell Creek not expecting to see many flowers, and we were agreeably surprised, so we suggest you go out there quickly and search both sides of the creek from Highway 58 to the white sandy roadcut at the north end of the best flower fields. Thistle sage is already in flower at that location.









**THE GOOD PEOPLE WHO MAKE THE CHAPTER 'HAPPEN' AND HOW TO FIND THEM**

- |  |   |  |  |  |
|--|---|--|--|--|
| <p><b>President</b><br/>Melissa Mooney<br/>mjmoon@charter.net</p>                    | <p><b>Chapter Council Rep.</b><br/>Melissa Mooney<br/>mjmoon@charter.net</p>                              | <p><b>Field Trips</b><br/>Bill Waycott (805) 459-2103<br/>bill.waycott@gmail.com</p> | <p><b>Rare Plant Coordinator</b><br/>John Chesnut (805)<br/>528-0833<br/>jchesnut@slonet.org</p>           | <p><b>Horticulture &amp; Plant Sales</b><br/>John Doyle (805) 748-7190<br/>doyle5515@sbcglobal.net</p> |
| <p><b>Vice President</b><br/>Kristen Nelson<br/>kmmnelson.nativeplants@gmail.com</p> | <p><b>Chapter Wholesale Contact</b><br/>Linda Chipping (805)<br/>528-0914<br/>lindachipping@yahoo.com</p> | <p><b>Retail Sales Manager</b><br/>OPEN<br/>YOUR NAME HERE?</p>                      | <p><b>Legislation</b><br/>David Chipping (805)<br/>528-0914<br/>dchippin@calpoly.edu</p>                   | <p><b>Publicity &amp; Web Master</b><br/>Judi Young<br/>judi@judiyoung.com</p>                         |
| <p><b>Secretary</b><br/>Cindy Roessler<br/>skantics@gmail.com</p>                    | <p><b>Conservation</b><br/>David Chipping<br/>(805) 528-0914<br/>dchippin@calpoly.edu</p>                 | <p><b>Historian</b><br/>Dirk R. Walters (805) 543-7051<br/>drwalters@charter.net</p> | <p><b>Newsletter Editor</b><br/>David Chipping (805)<br/>528-0914<br/>dchippin@calpoly.edu</p>             | <p><b>Hospitality</b><br/>OPEN:<br/>YOUR NAME HERE?</p>  |
| <p><b>Corresponding Secretary</b><br/>Cindy Roessler<br/>skantics@gmail.com</p>      | <p><b>Education</b><br/>OPEN<br/>YOUR NAME HERE?</p>  | <p><b>Invasive Plants Control</b><br/>Mark Skinner<br/>mskinner@coastalrcd.org</p>   | <p><b>Photography</b><br/>Photo Curator<br/>David Chipping (805)<br/>528-0914<br/>dchippin@calpoly.edu</p> | <p><b>Chapter Publications</b><br/>Matt Ritter<br/>mritter@calpoly.edu</p>                             |
| <p><b>Treasurer</b><br/>David Krause (805) 927-5182<br/>dkincmbria@aol.com</p>       |   | <p><b>Membership</b><br/>LynneDee Althouse<br/>LynneDee@althouseandmeade.com</p>     |  |  |

**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 California Native Plant Society*  
P.O. Box 784  
San Luis Obispo, CA 93406



Print, Clip & Mail

***Join Today!***

- Student / Limited Income \$25
- Individual \$50
- Plant Lover \$120
- Supporter \$500
- Patron \$1,000
- Benefactor \$2,500

*I wish to affiliate with the San Luis Obispo Chapter*

***Inquiries:***

*Phone: (916) 447-2677 Fax: (916) 447-2727 (State)*  
*e-mail: cnps@cnps.org (State)*

***Websites:***

***Websites: [www.cnps.org](http://www.cnps.org) (State) & [www.cnpslo.org](http://www.cnpslo.org) (Local)***

New  Renewal  Gift

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip Code \_\_\_\_\_

Telephone \_\_\_\_\_

E-mail \_\_\_\_\_ \* NEEDED FOR NEWSLETTER

Please make your check payable to CNPS and mail to:  
attn Membership, California Native Plant Society, 2707 K Street, Suite 1,  
Sacramento, CA 95816-5130

GIFT MEMBERSHIP RECIPIENT

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip Code \_\_\_\_\_

Do you want CNPS to send gift recipient a postcard identifying you as giftor  Yes  No