
Obispoensis

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



October 2018

Where Have All the Flowers Gone?

Ellen Cypher

Many visitors to the Carrizo Plain in 2018 were expecting to see the showy displays of wildflowers that earned the area the “Superbloom” designation in 2017...but they came away disappointed. So where did all the wildflowers go? In a word: underground. Most wildflowers in the Carrizo Plain and other arid lands around the world are annuals, a strategy in which the plants complete their life cycle in a single growing season and wait out the dry season as seeds. In the meantime, the seeds are stored in the soil not too far below the ground surface, in what is called the soil seed bank. Those seeds sprout and grow into recognizable plants when temperature and moisture conditions are just right and any additional barriers to germination are overcome. Some perennial plants do grow on the Carrizo Plain and similar landscapes. This type of plant survives through one or more dry seasons as fleshy roots, bulbs, or similar structures—which also are underground. Among the perennials you can find on the Carrizo are blue dicks, larkspurs, and various wild onions. Even these plants may not show up every year, waiting until years of “normal” rainfall to push stems above ground and produce leaves and flowers.

Each type of annual plant needs a different combination of moisture and temperature to stimulate seed growth. Native wildflowers (those that evolved in this region over thousands or millions of years) generally do best in years when abundant rain occurs during the cool months of mid-winter. Many native plants produce a cluster or “rosette” of leaves at ground level during the winter and do not send up a flower stalk until the weather begins to warm up in the spring. The ubiquitous nonnative grasses—most of which evolved in the Mediterranean region of Europe—generally respond to warm fall rains. Some of the more familiar nonnative grasses are red brome, soft chess, foxtail barley, and wild oats. When this area receives early rainfall, the nonnative grasses get a head start on the native wildflowers and turn the hillsides green. By putting down roots early in the growing season, these annual grasses are able to capture and absorb any rain that falls, leaving too little available for the native wildflower seeds to grow or survive beyond the seedling stage. Thus, years when rains begin early while temperatures are still warm and rains come regularly throughout the fall and winter have been called “grass years.” A different set of conditions is needed to produce the masses of native flowers known as “Superblooms.” These tend to occur in years with abundant winter rainfall that does not begin until the cooler months of late fall and follows several years of drought.

Germination barriers can take several forms. Some plants produce chemicals in the seed coat (the outermost layer of the seed) that must be leached out by repeated wetting before the seeds can sprout. Others have such hard or thick-walled seed coats that mechanical action such as rubbing or grinding by soil particles is needed before water can penetrate. And still others—particularly those that grow in vernal pools—need to be immersed underwater for some time to allow fungi and other decay organisms to break down the seed coat. Many years—even 50 or more!—may pass before seeds of a given type of wildflower are ready to start growing again. For this reason, the endangered California jewelflower was thought to have disappeared from the Carrizo Plain entirely, until an observant biologist spotted it in the late 1980s.

In the driest years, annual plants may bloom when they are only an inch or two high, producing only one or a few flowers, and they may or may not live until the few seeds are mature. But because they do produce at least some seeds in most years, usually at least a few of those seeds are ready to grow each year. In the “off” years these small, scattered plants are hard to find, unlike the showy patches that can be seen from miles away in the wetter years. Luckily for visitors to the Carrizo Plain, Superblooms come along once every decade or so. We can only guess what type of year 2019 will be....

THE GARDEN CORNER

Into the Fall season

With the Fall season almost upon us it's time to start planning on preparation for the Winter season. The most important item on the list is weed control. By applying mulch now you will save lot of labor in the future (next Spring & Summer).

Any forest product four (4) inches thick will stop weed growth, but it can also affect desirable plants from thriving if you don't follow the rules. So start by checking and marking any California native plants, like *Baccharis*, *Lupinus*, or *Eschscholzia californica*, before spreading mulch. Once all desirable plants are plotted using marker flags or sticks, spread a thick layer of clean chips of any forest product four inches thick to suppress weed growth. Leave a one-foot space around desirable plants with no mulch. This will prevent trunk rot. While mulching is not always 100% effective for weed control, it can definitely help mitigate the majority of grass weeds.

Happy Gardening; John Nowak, Plant Sale co-Chairperson.

PLANT SALE ANNOUNCEMENT... SATURDAY, NOVEMBER 3rd

John Nowak

In 1982, I came to my first CNPS meeting. It was a lot different then, but one thing has always been constant; the Plant Sale. For as long as I have been a member we have had a plant sale. I'm not sure, but I think there are only four other chapters that have consistently had an annual plant sale for so long. Well, as your plant sale leader its time again to get the show on the road.

Suzette and I would once again ask our hard working volunteers to come forth and help at the annual Plant Sale; this year to be held on November 3rd (Saturday), my birthday. Yes, I can't think of a better way to spend my special day than selling plants. Our sale is the single most important event for us to spread the word about California native plants. Not only in the garden but also in the wild. Many people are asking questions, especially in our changing climate. We are the only pure California Native plant sale on the central coast. So if you want to help spread that word, I look forward to seeing you as a volunteer at our annual Plant Sale.



NATIVE PLANT ANNUAL SALE

Saturday November 3rd - 9am-2pm

Pacific Beach High School in San Luis Obispo
11950 Los Osos Valley Rd (at Target intersection)

SHRUBS TREES FLOWERS
SEEDS POSTERS BOOKS

Friendly advice from experienced native plant gardeners

The poster features a green border and several yellow flowers. At the bottom left is the logo for the California Native Plant Society, which includes a sunflower and the text "CALIFORNIA NATIVE PLANT SOCIETY".

If you are interested in helping, please e-mail me at gritlys@gmail.com and indicate what hours you can assist as well as if you want light or heavy duty. Or give me the sign-up slip at the October meeting. Until then, please start spreading the word about this annual event and happy gardening. John Nowak, Plant Sale co-Chairperson.

Seed Exchange Marti Rutherford

The third annual seed exchange will be held before the October 4th Chapter Meeting. We will start around 6 pm and will have seeds out for exchange for about an hour. Clean up will be done before the start of the chapter meeting.

You do not need to bring seeds to participate. We encourage the planting of natives, whether from seed or from potted plants. Having seed available allows one to try unfamiliar plants to see what will work in your environment with little investment but time, a little potting soil and a little water. The seed is exchanged free of charge. No seed will be sold. We will be providing seeds of natives only. If the plant grows well for you perhaps you could bring seeds the next year.

If you have seeds please bring them. The more variety the more fun. There is hope that this activity will increase over the years and provide even more benefit for members of CNPS.

To participate please bring seed, cleaned as best you can, the Genus and species name, where the seed was collected and a picture of the plant. Many of us are not so familiar with names but will recognize a picture of a plant we'd like to try. Bulk seed is fine. If you are worried that some might take too much of one seed you can parcel it out but that is not necessary. We want the process to be easy for those who bring seeds to encourage continued participation. We will provide envelopes for you to put your chosen seed into.

Seed that remains after the exchange may be packaged for the plant sale in November. If you want to donate seeds to the plant sale please give them directly to Marti.

What to do with those seeds when you get them home? Explore the resources available on our website under resources. For germination instructions I find the book by Dara Emery, *Seed Propagation of Native California Plants*, to be very helpful. That book can usually be found on our book table at chapter meetings.



Photo: Keegan Fields Wikipedia: CC BY-SA 4.0

ETHNOBOTANY NOTES

Cathy Chambers

Many California native plants have been used by people for many different uses for millennia. In this series, I would like to highlight some plants that you can grow and enjoy in your garden and then harvest to use. Many of them can be purchased locally at local nurseries or at our Native Plant Sale in the fall each year. People often ask me about foraging out in the wild but I would encourage you to leave those resources for the wildlife, and try to grow these plants yourself at home.



Photo: David Chipping

One plant that is a wonderful delicate understory plant is the Yerba Buena, or *Clinopodium douglasii* (used to be called *Satureja douglasii*). It is in the Mint family, and the Spanish term “Yerba Buena” is used around the world for many different mints. The leaves are brewed for a refreshing tea, and as with other mints, it contains compounds which are anti-spasmodic that serve to help calm an upset stomach or treat colic. Jan Timbrook

writes that the Cahuilla used it to reduce fevers and cure colds. It was also used to treat parasitic worms and colic. Whereas it would be best to seek medical advice for any of these conditions, it does make a delicious tea.

It grows as a perennial creeping ground cover on many soils, prefers shade, and does well under and amongst other California Natives such as oaks, madrones, and wild strawberries. Once you bruise a leaf and smell the fragrance, you will want this little treasure in your garden.

INVASIVE SPECIES REPORT

Mark Skinner

Conicosia pugioniformis Narrow leaf iceplant

Conicosia is in the *Aizoaceae* family. It is a succulent perennial with a crowded basal rosette of smooth, bright green, upright, linear leaves. Clustered with the leaves are stems with brilliant yellow flowers. All this on top of a carrot like root. It's capsule fruits are dry at maturity. *Conicosia* is abundant on coastal dunes. It seems like nearly anywhere I travel in the back dunes from Oceano to Guadalupe—there they are—they're so darn ubiquitous! *Conicosia* crowds out native plants and is a prolific seed producer. Do not step on a plant with dried capsules: the seed will stick to the bottoms of your shoes! Due to a thick root it is hard to pull. If one snaps off the leaves on the soil surface it will grow back, therefore a shovel is best. Chemical control is best achieved by spraying a liquid mix containing 1.5% glyphosate 1.5% surfactant. It is best to spray before flowering. (We caution that the use of glyphosate is under legal challenge as a possible carcinogen.)



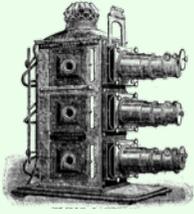
The latest edition of our monthly newsletter *Obispoensis* is available for download as a PDF file from the link below. Find out about upcoming events, field trips, local issues impacting native plants, invasives to be on the watch for, horticulture tips for growing natives, contact info and more in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

<http://cnpslo.org>

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

CHAPTER MEETING Oct 4th 2018 - Thursday - 7pm



**BEFORE THE MEETING (Seed Exchange 6:00-7:15 see details)
DESSERT POTLUCK--BRING A TASTY TREAT TO SHARE**



The October meeting of the California Native Plant Society will take place on Thursday evening, October 4th, from 6:00 pm to 9:00 pm at the SLO Vets' Hall, 801 Grand Ave. in San Luis Obispo. The first half of the meeting will be devoted to a California native seed exchange. If you have an interest in planting native seeds and/or have native seeds to share with others, you are asked to come prepared to participate. During the meetings, seed traders will share their tips on how to plant the seeds and grow the plants they brought to share. The second half of the meeting will feature presentations by local members, reporting on botanical places of interest they visited during the summer. Join us for refreshments (please bring a dessert to share) and some exciting photographs and stories of forays into the wild. If you would like to present some of your tales of discovery out in nature, bring your photos in a viewable format to the meeting, on a thumb drive, or you can e-mail your photos to David Chipping (dchippin@calpoly.edu), 24 hours before the meeting. Dave can also answer any questions about formatting your photos, noting that progressive title slide numbering or alphabetization works in preserving slide order.



Sunday, Sept. 23rd, 9:00 am, Johnson Ranch Open Space and Irish Hills Natural Reserve Hike. Come explore the trail connecting Johnson Ranch and the Irish Hills Reserves. Total distance of the hike is 6 miles, with a 700 ft. gain, taking about 3 hours. This trail illuminates the wide-range of species growing on serpentinite-derived soils located throughout the Irish Hills, south of San Luis Obispo, from thick, monocultures of leather oak, *Quercus durata*, and buck brush, *Ceanothus cuneatus*, to areas of rare SLO Co. endemics. Please meet at the Johnson Ranch Open Space trail head, located at the turn out to the intersection of South Higuera Street and Ontario Road, adjacent to Hwy 101, south of San Luis Obispo. From there we will shuttle in a few cars to the Irish Hills Reserve trail head located at the southern end of Madonna Road in San Luis Obispo (ten minutes by car). At the end of the hike, we will shuttle the drivers back to their cars at the Irish Hills. Bring water, snacks, and dress in layers for changing weather. A hat and sturdy shoes are advised. The plants, animals, and geology of the area will be discussed. Bill Waycott, 805-459-2103.

Sunday, Oct. 14th, 9:00 am to 12:00 noon, Autumn walk in Atascadero. Join us on the new trail at Three Bridges Oak Preserve. This trail starts in a lovely blue oak woodland, ascends into chaparral, and ends in stands of madrone and views towards the east. It is 4 miles up and back, ascending 800 ft. Come to learn the easy to identify plant and animal species. To reach the trailhead, consider using a smart phone for guidance because there are several windy streets involved. From San Luis Obispo, travel approximately 18 miles north on Highway 101. Take exit 218B and turn left onto Curbaril Ave. Turn left on Morro Rd., right onto San Gabriel Rd., left on Monita Rd., and right onto Sierra Vista Rd. In 500 feet, turn left onto Andrita Rd. and continue onto Casanova Rd. When you turn right onto Carmelita Ave., access to the trailhead will be ahead on the left, with a designated area for parking that's easy to find. Make sure to bring water and snacks. Sturdy shoes, sunscreen, hats, and layered clothing are recommended. No RSVP needed and dogs on a leash. Contact Bill Waycott, 805-459 2103. Rain or threat of rain cancels.

PUBLIC LANDS DAY AT THE CARRIZO PLAIN

BLM is having a work day on September 29th. Contact John Kelley at jtkelley@blm.gov if you would like to participate. Typically these have been making improvements to facilities such as trail head parking, Goodwin Education Center landscape, and lunch is provided by Friends of the Carrizo Plain if BLM knows you are coming.



Editor's Note: Readers of the paper version of *Obispoensis* will miss the COLOR that you can see in our downloadable web site version. Visit the website at www.cnpslo.org

PRESIDENT'S NOTES

Bill Waycott

[This month's President's notes will be divided into two parts, with the second part included in the November issue.]

As someone who frequently hikes in our California landscape, I often ponder over the abundance and diversity of exotic species that have naturalized here, and how that came to pass, specifically during the past two centuries. This is not to say humans did not move plants around California prior to the arrival of Europeans, but historical records point to the introduction and, in some cases, rapid dispersal of non-native species in our state, as a post-European-arrival event. So, I set out to satisfy my curiosity, and in the process found some interesting facts.

How did so many non-native species find their way to California and how could they spread so quickly and in such large populations - was it intentional or by accident - by air, by water, by animal, by human, etc.? I reckon humans have had preferences for certain plant species since the beginning of time, thus altering the landscape to create a more desirable food supply. As North Americans, most of the plant species we consume are actually native to somewhere else, where simple domestication events started eons ago. However, as non-native plant species were carried to other continents during the last 500 years, adequate safeguards for their containment were apparently not well understood, and the botanical invasion we see today in California correctly had its origins in the not so distant past.

Here's one example. I am astonished to see European fennel (*Foeniculum vulgare*) growing in such numbers in abandoned fields in my neighborhood. It is particularly thick along the railway right-of-way that bisects this vicinity. How did those plants get so well established here? One possible scenario could be - it's originally from Greece, then traveled to Italy, then to Spain, to Mexico, and finally to California, where it was planted in the early gardens in this area, and then transported via the hooves of horses and on the wagons they pulled, later on the trains, trucks and tractors that worked and subdivided the land, and finally via the shoes, socks, and pockets of humans. I wonder if that is how it really occurred.

This hypothesis comes from observations I have made while hiking in some of the more remote areas of our county, where it can be hard to find exotic species that have become established. In most cases, the further one travels away from human civilization, the fewer number and variety of exotic plants are found. There are exceptions to this rule, especially where soil type and/or moisture do not afford these plants adequate resources for growth.

Here are a couple of examples of what I have seen in recent years, illustrating to me how new species have potentially moved into our area. On some of the hiking trails, one finds an introduced species growing right along the path, but rarely more than a few feet off the path. *Torilis arvensis*, known as hedge parsley, or "sock destroyer", is a European native having seeds covered with tiny hooks, similar to Velcro. The plant grows within the range of most people's socks, i.e., 1-2 feet tall. Socks pick up the seeds when the plant is shaken and then transport them to new locations along the side of the trail, thus engineering this unique dispersal pattern.

The other example concerns two species; Canadian horseweed, *Erigeron canadensis*, and Italian thistle, *Carduus pycnocephalus*. Both of these plants were uncommon in our county 15-20 years ago. Later, they began showing up along roadsides and even later spreading along the trail systems, to the point where they now dominate sizeable portions of our open spaces. Canadian horseweed, although native to North America, has become an "unwanted plant" in many places, common in disturbed areas in full sun, while Italian thistle does best in partial shade, especially under coast live oaks. Both are in the *Asteraceae* family and produce copious quantities of seeds. Using its pappus, a small parachute connected to one end of the seed, these species achieve phenomenal aerial dispersal potential, even from a single plant. Seeds move with the wind, easily get lodged in vehicles, horses' hooves, people's shoes, etc. Thus, these seeds first arrived along roadsides, then moved along the trails into our wildlands.

So, I guess the finger of blame for these introductions, and rapid disseminations, points to us, because the patterns of dispersal invariably involve human activity. Next month, I will cite some historical records to further illustrate my point.



Torilis (left) and *Carduus* (right) revealing two different seed dispersion strategies. Pictures: David Chipping



Membership Corner

Holly Sletteland

September is a time of transition, when many native plants slow down and start their dormant phase. There are still blooms to be found, but they are few and far between. In my garden, many buckwheats (*Eriogonum* spp.) are still pushing out tight little balls of bloom, but most have dried to a deep sienna and umber. California fuchsias (*Epilobium canum*) are still putting on quite a show, with their scarlet tubular flowers, much to the delight of the hummingbirds. At this time of year, one finds more color in foliage than in blooms. The poison oak leaves have turned various shades of red, while the sycamores, big-leaf maples and valley oaks are turning shades of honey and butterscotch.

September is a time when things pick up again with the chapter after a summer hiatus. We had several new members join over the summer, as well as a number of renewals. We're certainly glad that you didn't let your membership go on hiatus and we look forward to seeing you at upcoming chapter meetings, field trips and the annual plant sale. A warm thanks to all of the following:

Garrett Ahern	Connie Geiger	Kathleen McCollum	Stephanie Spencer
Kathryn Bay	Nancy Hill	Esther Miller	John Stephens
Susanne Bernstein	Chase Kautz	Robin Mize	Doug Tait
Wendy Brown	Cheryl Kershaw	Geoffrey Rusack	Julie Thomas
David Clendenen	Lisa Ludovici	Natalie & Michael Schaefer	Larry Vierheilig
Chuck French	Ruth Madocks	Mark Skinner	

CONSERVATION NOTES

We are still awaiting the Draft EIR for the Froom Ranch development at Highway 101 and Los Osos Valley Road. We are also watching very carefully the Trump Administration orders to BLM to examine the oil leasing potential of all of its holdings. This is not a problem for most BLM lands in the County, as most are situated on geology extremely unlikely to contain oil deposits. The county has been extensively drilled over the last century, with most being dry holes, although there is some potential in northern Santa Barbara County, the Huasna area, and some lands adjoining the Carrizo Plain National Monument. We will address any new lease sales as they occur. There are no chances of Morro Rock being drilled, as some conservation organizations have suggested. We are also following the Diablo Canyon Decommissioning Process very closely, and attended panel hearings. Lastly, we are also following developments in the Sustained Groundwater Management Act regarding the protection of surface waters: **David Chipping**

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 Suzette Girouard (805) 801-4806 suzette.girouard@gmail.com
Vice President David Keil dkeil@calpoly.edu	Chapter Wholesale Contact Linda Chipping (805) 528-0914 lindachipping@yahoo.com	General Book & Poster Sales June Krystoff-Jones (805) 471-5353 junemkj@gmail.com	Legislation David Chipping (805) 528-0914 dchippin@calpoly.edu	John Doyle (805) 748-7190 doyle5515@sbcglobal.net
Secretary Melissa Mooney: mjmoon@charter.net	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	Publicity & Web Master Judi Young judi@judiyoung.com
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	Hospitality OPEN: YOUR NAME HERE?
Treasurer David Krause (805) 927-5182 dkincmbria@aol.com		Membership Holly Sletteland hslettel@calpoly.edu		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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