
Obispoensis

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



March 2015

Common Sunflower (*Helianthus annuus*)

About the Cover: Bonnie's *Obispoensis* drawing is of a plant that can be viewed as a native, feral or cultivar in every one of the lower 48 states as well as southern Canada and northern Mexico. I wouldn't be surprised to find it in all temperate zone countries. It's the annual or common sunflower (*Helianthus annuus*). Wild or feral plants usually are extensively branched with a single smallish flower head produced at the end of each branch. The common form of sunflower found in cultivation has a thick, unbranched stem topped by a single huge head. Common sunflowers belong to the Asteraceae (Compositae). Thus, it is a family characterized by having its tiny flowers aggregated in a tight inflorescence commonly called a pseudanthium or head. Pseudanthium translates as "false flower." Basically it has its tiny flowers modified and arranged so as to mimic a single flower. The structures that look like sepals are actually bracts (modified leaves) which are produced below the head. The petal-like structures are actually sterile flowers called ray flowers. (In most members of the family that have ray flowers, the ray flowers are female (pistillate) only. But in the sunflower genus (*Helianthus*) the ray flowers are sterile). The center of the head consists of small flowers with petals fused into a tube; thus these flowers are often called tubular flowers. Because the tube flowers are often tightly packed into a central disk, they are also called disk flowers. Individual disk flowers produce sepals that most people would not recognize as sepals. It is important to remember that flower structures are recognized (and named) based on their position and not their appearance or function. Sepals are produced outside the attachment of the petals. In common sunflowers, these are a pair of dry, flat scales that fall off as the fruit develops. Another structure found in sunflowers that is shared by many of its close relatives is a small scale (bract) that is produced below the inferior ovary of each disk or tube flower. Botanists term this structure, chaff. It corresponds to the leaf whose bud grew into the tubular flower. Again, recall that a flower is interpreted as being a very highly modified leafy branch with the flower parts (sepals, petals, stamens and pistils) interpreted as modified leaves.

According to *The Jepson Manual*, 2nd edition, the common sunflower is native to California. It's certainly common in the foothills surrounding California's Central Valley. Just after one leaves SLO County going north on highway 41, the highway passes through a valley named Sunflower Valley. It is also quite common as a roadside weed wherever there is moderate disturbance throughout the Central Valley itself. Common sunflowers are particu-

larly partial to the extra water from run-off from roads which makes them quite numerous in ditches close to roads. There was a particularly good common sunflower display in the Carrizo Plains National Monument last fall.

Common sunflowers are one of the relatively few crops that were domesticated in North America. Back when I was in graduate school, my major professor was Dr. Charles B. Heiser who had done his graduate work on sunflowers. Needless to say, he spent a bit of time lecturing on the common sunflower. His studies were classical biosystematic studies. That is, he used classical field and herbarium studies as well as transplant garden studies. He also did crossing studies among the species in the genus. This was before computers and DNA studies. He concluded, if I remember right, that the common sunflower (i.e., *Helianthus annuus*) came to California relatively late in anthropological time. When it arrived, the habitat where it grew the easiest was already occupied by a species that had evolved in California. This was Bolander's sunflower (*H. bolanderi*), which can also be found in our area. The two species were able to intercross and produce hybrids. These hybrids were able to grow and serve as a bridge for adaptations to pass between the two species. Unfortunately for *H. bolanderi*, most of the flow was into *H. annuus*. So the common sunflower was able to expand its range at the expense of Bolander's sunflower. Both species are still found surrounding the Central Valley, but the common sunflower is certainly the more common one seen as it is much more at home in human (i.e., weedy) environments.

The common sunflower is one of the relatively few plants that were domesticated in North America. Its seeds were used as an important source of dietary oils, which is relatively rare among crop plants.

Due to this rarity, I believe it would have been recognized as useful plant wherever it grew. Where it didn't grow, people would try to acquire it through trade. According to Dr. Heiser (and the internet) the earliest evidence of domesticated sunflowers comes from ca. 5000 years ago in Tennessee. Again, according to the internet, archeologists have found evidence of an even earlier domestication in Mexico. I'm not upset by this, because I think a plant this useful would have passed from wild to deliberately grown several times in several places.

Remember, native or feral common sunflowers produce many branches and many smallish heads at the end of each branch. So, from where and/or when came the most common form which is single stemmed with a single massive head? To answer this question, we must look into slightly more recent history. When the Europeans arrived

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About the Cover continued

in the New World, the common sunflower was widely used by many different native peoples. The Spanish carried it to Europe where it spread rapidly as a flower garden plant, not as a food plant.

It had reached all of Europe certainly by the 18th century. It was then that the Eastern Orthodox Church began to seriously enforce biblical dietary restrictions during lent. Well, Eastern Europeans need oils in their diet too. Unfortunately, biblical dietary rules removed all of their oil plants they had grown to depend on. So what did they do? They started sampling the plants growing in their gardens. They discovered that their sunflowers satisfied their cravings for oil. Why weren't common

sunflowers on the biblical restricted list? The Bible was written one thousand or more years before the Americas were discovered and common sunflower is a new world

plant. Therefore the biblical writers couldn't have known about it and therefore couldn't have put it on their restricted list. Once, Eastern (and Northern) Europeans recognized the value of common sunflower as an oil source they began to select for larger seeds and larger heads. Ultimately, a mutation occurred in Eastern Europe that resulted in the unbranched stem and single huge head. From Eastern Europe the single massive headed mutant spread around the world as well as being brought back to North America. ☼

Dirk Walters, illustration by Bonnie Walters

President's Input

Your thoughts about our local chapter and its priorities for the coming year are important to me. During the February meeting, I presented some ideas attempting to illustrate where we have been up till now and where we might like to go in the future. The list was long. Major areas where we are engaged right now are:

- Monthly meetings and banquet
- Website and Facebook
- Newsletter and e-mail notifications
- Bookstore and CNPS apparel
- Plant ID workshops
- Field trips
- Plant sale
- Work at the Hoover Herbarium
- SOD blitz
- Rare Plant Treasure Hunts
- Los Osos Middle School
- Boothing at regional events
- Conservation reviews
- Educational grants, awards, and scholarships

And, areas we might want to expand into:

- Fire-safe gardening with natives
- Presentations at area schools and libraries
- Public native gardens
- Training to identify rare plants, invasive plants, medicinal and edible plants
- Plant conservation plans for regional governments
- Plant lists for popular trails and local parks
- Nursery Best Practices workshops
- Interpretative signage in area parks
- Milkweed project
- Photo contests

By now, those of you who have subscribed to our e-mail newsletter should have received a request to send in your top three priorities for the local CNPS chapter. If you have not done so already, please take the time to do so by the 4th of March, to insure your votes are counted. If you would rather, please send your three priorities to my e-mail at bill.waycott@gmail.com and we will make sure your votes are counted. The results of this survey will be presented at the March meeting in Atascadero. Thanks a lot! Bill Waycott

Chapter Meeting

Matt Ritter is the California coordinator of the American Forests Big Tree Registry and the Director of the California Register of Big Trees. He will speak about and show pictures of the lives, ecology, and stories of California's champion native trees.

Thursday, March 5, 2015, 7 p.m. at the new Atascadero Library, 6555 Capistrano Avenue, Atascadero

From 101 take the 41 east exit.

If coming northbound 101, you take a left then right to get on 41 east.

If coming southbound 101, take a left to get on 41 east.

Take a left on Capistrano Ave. (lights after Rite-Aid).

Library and library entrance is on the right, the Community Room is on the 2nd floor.

Contact Lauren if you need additional information (cell - 805-570-7993)

Prior to the meeting please join us for a **workshop** at 6:15, **Identifying Pines in the California Flora**. We'll have samples for identification of a number of native and a few ornamental pines.



We are so grateful to all of our new and renewing members!

Mark Brunschwiler	Steve Mullany
Ted Fainstat	John Nowak
Nancy Farrell-Rose	Joan O'Keefe
Elizabeth Johnson	Peter Sarafian
Peter Kinkade	Clint Scheuerman
Penny Koines	Simon Timms
Sheri Kosh	Lindsey Whitaker
June Krystoff-Jones	Matthew Willis

California Native Plants Week Saturday, April 11 to Sunday, April 19

If you would like to be involved and have suggestions for Native Plant Week activities contact Bill Waycott, bill.waycott@gmail.com

Possible activities include:

- community native garden tours
- regional plant nursery tours
- joint activity with the Master Gardener program displays at local libraries
- local wild flower field trips
- joint activity with the Cal Poly Ornamental horticulture program
- other activities

Field Trips

Saturday, February 28, 2015, 9 a.m. Late Winter Burton Mesa Chaparral CNPS Field trip at the La Purisima Mission. The California Native Plant Society and Lompoc Valley Botanic and Horticultural Society will hold their annual winter field trip to the Burton Mesa Chaparral on the La Purisima Mission grounds Saturday the 28th. Meet at the east end of Burton Mesa Boulevard (1550 E) in Mission Hills at 9 a.m. for a chance to see the early bloomers and interesting scenery. To reach Burton Mesa Boulevard, drive to SR 1 north of Lompoc. At the signal where SR 1 turns down hill towards Lompoc, take Harris Grade Road north to Burton Mesa Boulevard, and turn right (east). For more information call Charlie Blair at 733-3189.

Sunday, March 1, 2015, 9 a.m., Wind Wolves Preserve, 16019 Maricopa Highway (State Route 166), between Maricopa, CA and Interstate 5. Join us for a day-long visit to Wind Wolves, part of the Wildlands Conservancy, located on the northern slope of the Transverse Ranges east of Maricopa, CA. We will meet outside the administration building at 9 am and explore the main valley floor. After an early lunch, we will begin a tour of the higher reaches of the preserve from 12 noon to 3 pm. Be sure to bring water, food, sturdy shoes, sunscreen, a hat, and layered clothing for warmth, if needed. Overnight camping is available at the preserve, but must be reserved in advance (as soon as possible due to lack of space). Carpooling is also available. Please RSVP if you plan to participate: Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Saturday, March 21, 2015, 9 a.m., Tejon Ranch, Sebastian Road gate, near Mettler, CA. Join us for a day-long visit to the Tejon Hills, part of the Tejon Ranch Land Trust, located on the western slope of the Tehachapi Mountains south of Arvin, CA. We will meet at the Sebastian Road gate (eastern terminus of the road) at 9 am and join the Conservation Science Director for a tour that will run much of the day. Be sure to bring water, food, sturdy shoes, sunscreen, a hat, and layered clothing for warmth, if needed. High clearance/4WD vehicles are preferred on the ranch. Carpooling is available. Please RSVP if you plan to participate: Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Saturday, March 28, 2015, 8 a.m., Carrizo Plains. There will be flowers! As of February 12, flowers had already started blooming in the Carrizo. This is a remote area. Make sure you have plenty of gas, water, as well as food, sunscreen, sturdy shoes, and layered clothing for warmth, if

needed. Meet at the Santa Margarita park-and-ride (freeway exit, State Route 58 at Hwy 101) at 8:00 a.m. We will caravan from there. You may be able to carpool with someone. It is recommended to arrange your ride ahead of time. We will be doing some walking, but no long hikes, the usual CNPS style. We'll be back to Santa Margarita about 4:30 pm. For more information, please contact: George Butterworth, (805) 438-3641, gbutterworth8@gmail.com. Rain cancels.

Saturday, March 28, 2015, (tentative date) 9:00 a.m. Drive and Stroll Tour of Figueroa Mountain at the Figueroa Fire Station. The Santa Lucia District of Los Padres National Forest will hold one of its twelfth annual Wildflower Weekends on Figueroa Mountain in conjunction with the California Native Plant Society. Since plants are blooming much earlier this year, we are moving this tour from mid-April to mid-March. Meet at 9 a.m. at the Fire Station on Figueroa Mountain Road. Turn left at the SR 154-Figueroa Mountain Road intersection near Los Olivos, and proceed to the Fire Station parking lot. This will be a "drive and stroll" tour of this year's spectacular display. Sturdy shoes, lunch and liquids, camera and binoculars recommended. Call Helen Tarbet at 925-9538 ext. 246 or Charles Blair 733-3189 for details.

Saturday, April 4, 2015, Malcolm McLeod Annual Field Trip Meeting at Shell Creek. Join us to explore and appreciate the remarkable and unique display of annual and perennial spring wildflowers in eastern San Luis Obispo County. Meet at the Santa Margarita park-and-ride (freeway exit, State Route 58 at Hwy 101) at 8:00 am. We will caravan from there. You may be able to carpool with someone. It is recommended to arrange your ride ahead of time. Be sure to bring water, food, sturdy shoes, sunscreen, a hat, and layered clothing for warmth, if needed. For more information call: Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Sunday, April 12, 2015 9AM, CNPS and Sierra Club Spring La Purisima Burton Mesa Wildflower Walk: Meet at the La Purisima Mission Parking Lot, corner of Purisima and Mission Gate Rds. (2295 Purisima Rd. Lompoc) at 9 AM for this annual California Native Plant Society and Sierra Club spring tour of the beauties of the Burton Mesa Chaparral. This is turning out to be a fair year for wildflowers, annuals as well as shrubs; Optional afternoon tour. Sturdy shoes, lunch & liquids, camera and binoculars advised. For more information, call Charlie at 733-3189 or Connie at 735-2292

Saturday, April 18, 2015, 9 a.m., Pine Mountain / Stadium Park, Atascadero.

This field trip will be an easy to moderate three mile hike with a 500 foot elevation climb on Pine Mountain in Atascadero. This is an excellent area to learn common trees, shrubs, and wildflowers in oak woodland and chaparral habitats. The walk leader will explain how to note different features on trees and shrubs to aid in identification such as leaves, bark, fruit, buds, tree shape and habitat. Blooming wildflowers will also be identified. Participants will be given a list of over 25 common trees, shrubs and wildflowers with key identifying features. Meet at the Stadium Park trailhead at the corner of Capistrano Avenue and Hospital Drive, below the Hwy 41 bridge. Be sure to bring water, snacks, sturdy shoes, sunscreen, a hat, and layered clothing for warmth, if needed. For more information call David Ledger at (530) 355-8542 (walk leader) or Bill Waycott at (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Tenth Annual Cambria Wildflower Show

Saturday, April 25, 12:00-5:00

Sunday, April 26, 10:00-4:00

Try to imagine the visual feast of more than 500 bouquets of wildflowers – and all under one roof! The Cambria Veterans' Building, at Main Street and Cambria Drive, will be the venue for a display of Fresh Wildflowers collected from the Monterey County line to the Morro Bay Estuary and from the coastal bluffs to the ridge of the Santa Lucia Mountains. Each year Friends of the Fiscalini Ranch Preserve and volunteers put on a bigger and better show than the years before, in the past drawing over 400 visitors and showing over 500 specimens. CNPS will again be there with a large assortment of wildflower and plant literature. This year's show will be dedicated to Nolan Coogan, photographer and one of the founders, who died of pulmonary fibrosis at the end of 2014. For more information or to volunteer to help, call 927-2856 or e-mail ffrpcambria@sbcglobal.net.

Conservation

CNPS continues to testify to the SLO County Planning Commission regarding plans to change local zoning to allow solar and wind projects to be "fast-tracked." This, in effect, removes any biological reports for projects from review by CNPS as comments on a Draft EIR, as these documents will no longer exist. Projects as large as 160 acres will instead be granted ministerial approval by the Planning Department. The County claims that projects will be subject to a presence/absence criteria of the plants considered under the CEQA process, where presence kicks the project out of fast track, and an additional filter which will only include "disturbed" lands under fast track. Our problem is that we have been able to catch major errors such as plant surveys being conducted in hard drought only after having access to the CEQA documents. As a 20 acre solar panel array would cost 2.5 million dollars, these are not "ma-and-pa" investments and projects and the small amount of time required to give peer review is not going to speed things up (they have to do the bio-

logical survey anyway). There are significant issues concerning inclusion of suitable but currently unoccupied habitat, concerning the definition of "disturbed", considering conflicts between "fast" and surveys made in drought, and also that projects under 3 acres can already be fast tracked under existing legislation. If this goes before the Board of Supervisors we hope we will get some protests from CNPS members.

On a lighter note, CNPS' Lauren Brown and Bill Waycott testified before the Atascadero City Council in support of Atascadero Land Preservation Society's Three Bridges Project, which will allow a staging area for a series of trails that will climb the east face of the Santa Lucia Mountains, and perhaps eventually connect with the Los Padres National Forest. The project was given a universal approval. CNPS will help ALPS with educational information such as trail guides to the flora. ☼ David Chipping

Hoover Award

We are pleased to announce that the Hoover Committee, composed of past recipients of the award, has selected Judi Young as the 2014 honoree.

A California native, Judi grew up in a family that for generations has valued our unique environment and ecosystems. Add to that a love of flowers and plants that was nurtured and encouraged during her growing up years; home gardens have always been an important part of her life. Judi moved to the Central Coast to be closer to her family, and we met Judi when she started to occasionally 'hang out' with her parents Heather and Jim Johnson at CNPS events.

Judi's talents are many and varied, with experience as a floral business owner, electronic communications, and a web design consultant. In 2010, the local chapter board sought to improve our small and dated website. With her Internet experience, artistic eye and interest in native plants, Judi saw the possibilities of revamping the website and stepped up to the task at hand. Today, our chapter has a beautiful, informative website that she designed and continuously updates.

Judi is very important to our chapter's appeal to younger people who use social media to connect with causes and attend events. She constantly reminds us what is possible in the modern world of communication, and how it can benefit our outreach to existing and new members. To further increase our outreach presence, Judi has set up and maintains a Facebook page, a very effective venue for



Susi Bernstein and Judi Young at the Annual Banquet

connecting with people who want to know more about native plants. In fact, just recently a group of home-schooling mothers contacted us via Facebook, requesting some assistance with tree identification on the Bob Jones trail in Avila Beach. We were able to provide the needed information, and we also attended a somewhat spontaneously organized field trip with these mothers and their children out on the trail! This sort of connection with interested people, previously unaware of CNPS, was made possible by our Facebook page and Judi's successful efforts to move us into the modern age.

In addition to Judi's importance to our electronic communications, she is also a big help in many other aspects of the local chapter, including as a regular Plant Sale cashier.

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