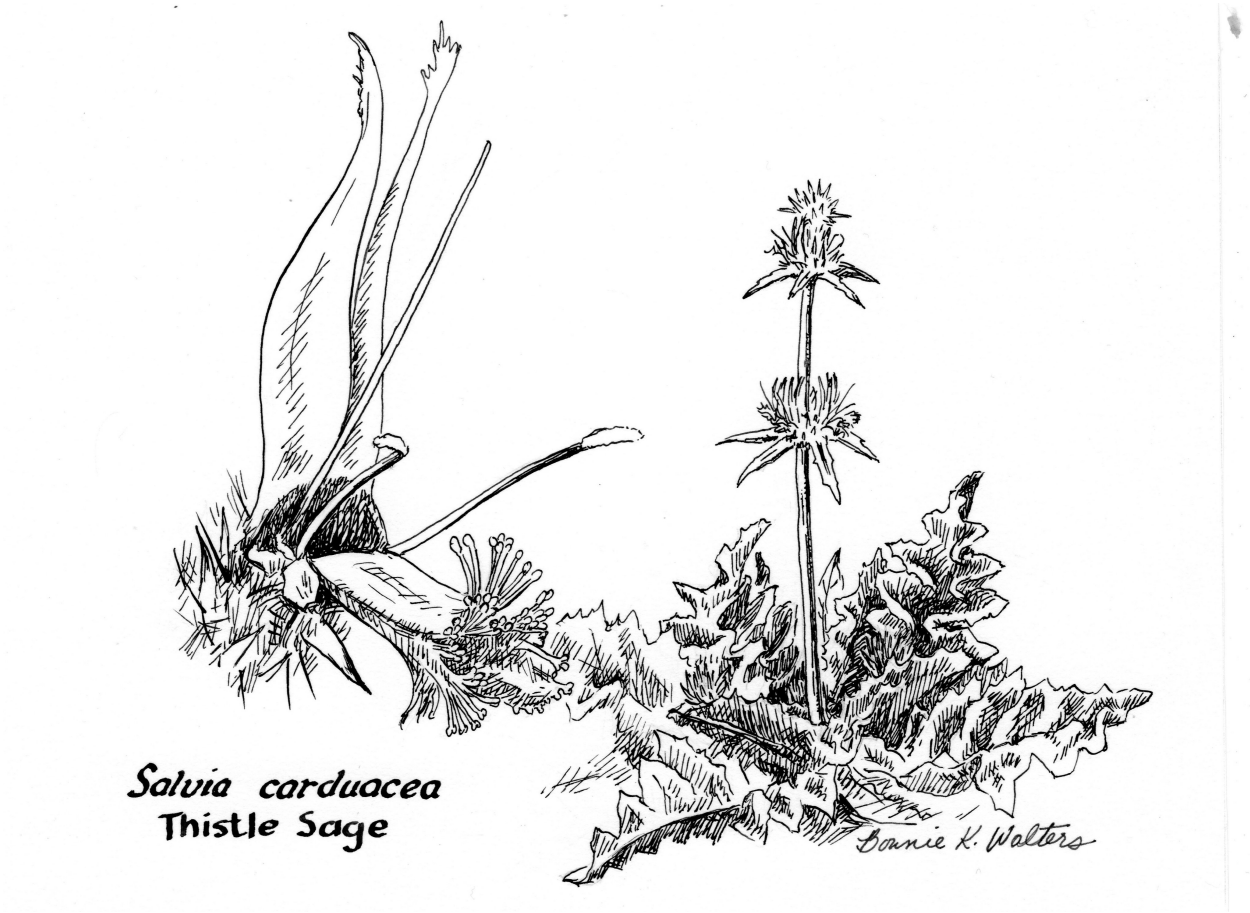
Obispoensis

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



May 2015

Thistle Sage
Salvia carduacea

This cover of this OBISPOENSIS is a repeat of one of my personal favorite spring wildflowers. It is the thistle sage, *Salvia carduacea*. The last time this plant graced a cover was May 1997. I'm repeating in now to share my unscientific observation that desert species have increased significantly in number and distribution at Shell Creek. A second new species at Shell Creek is snake heads, *Malacothrix coulteri*, which also is more common where desert conditions prevail. Shell Creek is the most north-western location for the thistle sage that I know of. For most of the last 40 years it was restricted to a single small patch containing relatively few individuals adjoining the diatomaceous earth outcrop close to Shell Creek Road. The last few years has seen the development of a second quite large stand just up the road. In addition, the number of plants at the original site has increased significantly. Why this increase? First, thistle sage is basically a desert plant and it would appear that desert conditions are expanding at Shell Creek. Why would desert conditions be expanding? The most probable answer is found in the increasing number and duration of droughts our area has experienced recently. Are these droughts caused by the well documented global climate change which has resulted in higher average land and ocean temperatures worldwide? I recently read about an interview with one of California's water managers. She was asked a very similar question concerning California's continuing drought. She answered approximately, "If our current drought is a result of global climate change, I can't say, but it is totally consistent with the scientific predictions expected from global climate change."

Thistle sage can be found at Shell Creek and throughout the La Panza, Caliente and Temblor Ranges. Basically the species is distributed through the foothills and valleys of the southern Interior Coast Ranges, central and southern Sierra Nevada and south through the deserts into northern Baja California. In the past the species in our county was not uncommon but it seemed to have a very spotty distribution. Therefore, it has always been a treat to find.

Both the common name and scientific name are derived from the plant's appearance. It's a mint whose stems and leaves resemble a thistle. Thistle sage is also a direct translation of its scientific name. *Salvia* is the genus name for the sages (a common type of economically important mint) and *carduacea* is derived from the genus name of a group of thistles (e.g., Italian thistle, *Carduus pycnocephalus*). Many mint characteristics are visible in Bonnie's drawing. The square stem along with the leaves borne in opposite pairs can be seen. Unfortunately the minty odor can't be picked up from the drawing, but be reassured it has it in spades. Mint flowers are bilateral, usually with two prominent lips and are borne in circular clusters. These stacks of whorls give the inflorescence the appearance of an oriental pagoda. The lower lip is the more spectacular in the thistle sage. We have lots of sages in the Chapter area. In addition to thistle sage we also have the herbaceous red hummingbird sage (*S. spathacea*) and smaller purple flowered chia (*S. columbariae*). There are also several shrubby sages which vary in height from ground covers to sizable shrubs.

Thistle sage flowers are fun to sit down and watch. This is because they are frequented by large bumble bees, which I assume are their principle pollinator. The flowers of thistle sage are large, lavender to pale purple with a fringe in the front of the lower lip that is pure white. Its two fertile anther-halves are bright, bright orange. Thistle sage anthers produce a branch at the base. At the end of one of the branches is the orange fertile anther cell visible in the drawing. The other branch is relatively short and projects backward and downward just inside the mouth of the relatively long corolla tube at the base of the flower. Nectar is produced at the very bottom of the tube. In order for the bee to get to the nectar, it has to stick its head into the tube which pushes on the two sterile branches thus forcing the fertile anthers downward causing them to come in contact with the bee's rump. That contact deposits pollen on the bee's rump. One additional thing needs to be noted about this pollination mechanism. Only fairly large bees will be able to work it correctly. Smaller bees and insects are probably excluded from the tube by the downward projecting branches because they lack the strength to push them out of the way. Even if they have the strength to move the barrier, they may be so small that the pollen bearing anther doesn't reach their rumps. These would be able to steal the nectar without carrying pollen to the next flower.

On this year's Malcolm McLeod Memorial trip to Shell Creek, we saw many thistle sages in full bloom. What was extra exciting about this was the observation of a day-flying hawk moth visiting their flowers. Several of us took pictures. Hawk moths do not land on a flower, but hover in front of it (below). *continued on next page*

Chapter Meeting

Thursday, May 7, 2015, 7 p.m. at the San Luis Obispo Veterans Hall, 801 Grand Avenue, SLO

Does the Endangered Species Act Help Recover Listed Plant Species?
The federal ESA is one of our premier environmental laws, but are our plants any better off? Using examples of listed plant species from the central coast counties, Connie will talk about some of the progress that has been made, as well as the setbacks that have been encountered along the way, in furthering conservation and recovery efforts.

Connie Rutherford is Listing and Recovery Coordinator for the U.S. Fish and Wildlife Service's Ventura-based office. She is an alumna of UC Santa Cruz and Humboldt State University, and spent several adventurous years in the field in Alaska, the Pacific northwest, Haiti, and the Mojave Desert before settling down in Ventura to a real job and family life. Early in her career, she worked to put a lot of plant species ON the list of endangered species; now she works to get them OFF.

Pre-Meeting Workshop: At 6:15 p.m. Dave Keil will lead a workshop on identification of salt marsh plants before the meeting.


Connie Rutherford

Thistle Sage *continued*

They hover slightly higher than the opening to the floral tube which brings their backs in contact with the stamens. Since they have a long, thin proboscis, they can reach the nectar without entering the corolla tube and without coming in contact with the tripping lever system. This is not a problem because of their hovering position in front of the flower.

Thistle sage would be a great addition to any native garden, especially one that encouraged annuals. It takes full sun and prefers well drained soils. All parts of the plant are very fragrant. One web source recommended it for attracting birds. Many web sites discussed its edible leaves and especially its edible seeds. The seeds are eaten like chia seed. One web source told of a study that compared the nutritional value of thistle sage verses chia. It reported that whereas chia had higher necessary fatty acid content, thistle sage had higher protein levels. Both thistle sage and chia were important food plants for native Californians. ❀ Dirk Walters, illustration by Bonnie Walters

Field Trip

Sunday, May 17, 9:00 a.m., Arroyo De La Cruz, North SLO County Join us to visit one of the "hottest" spots for botanical diversity in San Luis Obispo Co. Our leader D.R. "Doc" Miller will take us to see many of the unique species located on the coastal bluffs. The Arroyo De La Cruz area features a variety of plant communities and a number of endemics, found only in this relatively small area, full of rare and endangered plants. Meet at the parking lot of Spencer's Market in Morro Bay, 2650 Main Street, at 9:00 a.m. From there we will drive north with a brief stop at the Elephant Seal Overlook (9:30 a.m.), to pick up any participants form Cambria and the North County, and then proceed on to Arroyo De La Cruz site. The field trip will last about 3 hours. For more information, contact Bill Waycott, (805) 459-2103, bill.waycott@gmail.com.


Calochortus uniflorus

Conservation

As I explained in last month's newsletter, we didn't expect to wring any more concessions from the County, and so that now a solar developer can take a 40 acre parcel and turn it to solar without an environmental impact report, just a biological study where CNPS will be notified of the project but, apparently, has no avenue through which to recommend changes without going through an expensive appeal process.

We are still waiting the final EIR on the Arroyo Grande oilfield. There is massive public concern about exploding oil trains that is causing decisions on the Conoco-Phillips rail spur to be delayed. There are some disturbing projects being proposed that CNPS must watch with care about to enter the pipeline. Two of them are in the Avila area, with one being Wild Cherry Canyon on land that nearly got bought for State Parks, and a second as amendments to the San Luis Bay Estates Master Development Plan and General Plan that would allow development near the club house at the golf course. A map of the proposed San Luis Bay Estates plan shows it on a now grassy slope immediately north of the tennis courts and parking, which are both due north of the highway bridge. The same developer, Rob Rossi, is proposing about 100 single-family homes, a 100- to 120-room hotel, and about 50 retirement units near the Blacklake clubhouse (or possibly an estimated 110 to 130 residential homes, about 130 hotel rooms, 100 retirement units and 25 spaces for recreational vehicles as proposed to Nipomo Community Service District). Water demand in the Blacklake project would be mitigated through removal of golf greens. These days the main issue in any new development is demand for additional water, and this is of central interest to CNPS , where our primary interest would seem to be habitat conservation. Our interest lies in the increasing restrictions on application of water for horticulture, as native plant gardening is a central interest to our members. The drought is now placing native plant communities such as oak, Monterey pine, Morro manzanita and other species at great risk where the plants have been conserved in an urban setting. This is commonly a mitigation that allowed development in these plant communities, and the plants persist and young plants are recruited under "normal" rain conditions. We are now seeing massive die-off of young plants in areas that are never watered, and there are limitations on the amount of grey water that can be allocated to their salvation in the garden environment. Cambria residents should try to keep young pines alive so that the famous forest will persist, although the large older trees appear to be doomed in many parts of the forest where mortality rates are locally very high.

What can you do to save water that would otherwise go down the drain? Plug the shower drain and scoop water into buckets to transport out to the yard. Save sink water, vegetable washing water in buckets at the sink. Smell worse? Do whatever needs to be done to keep those natives alive without pouring good drinking water on them. ❀ David Chipping

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CNPS-SLO events during California Native Plant Week, April 2015

By Mardi Niles

Saturday, April 11 at La Purisima Mission State Park in Lompoc, CA.

A display of California native plant specimens collected from a hill near the Visitors Center at La Purisima Mission organized by Susi Bernstein with assistance from Mardi Niles and June Kristoff-Jones.

Monday, April 13, Arroyo Grande Library.

A botanical drawing event for children

A CNPS Native Plant Week display for the Arroyo Grande Library coordinated by Susi Bernstein. The native plants in the bouquet are from Mardi Niles' garden.

Thanks to all of our new and renewing members!

Bruce Berlin	Kathleen Jones
George Butterworth	Samantha Kaisersatt
Liz Curren	Linda Karr
John Doyle	Julie Levy
Suzette Girouard	Marilyn Miller
Dennis Hadenfeldt	Bryan Potter
Marcia Harvey	Jeanette Sainz

Obispoensis is published October through June except January. Items for submittal to *Obispoensis* should be sent to rhotaliing@charter.net. The deadline is the 10th of each month. Botanical articles, news items, illustrations, photos, events and tidbits are welcome! Visit the websites:

www.cnps.org & **www.cnpsslo.org**

Sudden Oak Death Blitz #3 - 2015
San Luis Obispo – May 15, 16, 17 (Friday, Saturday, Sunday)

Sudden Oak Death (SOD), a serious exotic disease, is threatening the survival of tanoak and several oak species in California. Currently SOD is found in 14 coastal California counties, from Monterey to Humboldt. Researchers have discovered that *Phytophthora ramorum*, the pathogen that causes SOD, spreads most often on infected California bay laurel leaves. Some management options are available, but they are effective only if implemented before oaks and tanoaks are infected; hence, timely detection of the disease on bay laurel leaves is essential for a successful proactive attempt to slow down the SOD epidemic.

This is a great opportunity to participate in a state-wide, very successful citizen science program. None of the samples collected in 2013 and 2014 were positive for SOD. But, it is very important to continue the monitoring to ensure this disease does not appear in SLO County or to manage the disease if we do get a positive result.

Purpose of SOD BLITZ:

The SOD-blitz is to inform and educate the community about the disease and its effects, get locals involved in detecting the disease, and produce detailed local maps of disease distribution. The map can then be used to identify those areas where the infestation may be mild enough to justify proactive management.

- A community meeting/training session held on a Friday evening; followed by collection of leaf samples by volunteers on Saturday and Sunday.
- Samples and accompanying forms are then turned in at a central location Saturday and Sunday afternoon/evenings.
- We will provide a list of recommended areas for sampling at the meeting.
- We will divide into groups for collecting. Ideally, one person in a group will have a GPS device or tablet or phone with GPS capability.

San Luis Obispo SOD BLITZ - 2015

Training - Friday, May 15, 6 pm to 7-7:30 pm, SLO County Department of Agriculture,
2156 Sierra Way, San Luis Obispo, CA Map Link

Collecting – Saturday and Sunday, May 16 and 17 (Locations to be determined). All of the materials necessary for the training and the collecting over weekend will be provided.

If you need additional information on the SLO SOD Blitz, please contact
Lauren Brown: lbrown805@charter.net , (805)460-6329 or (805)570-7993

For general SOD Blitz information, please visit - http://www.sodblitz.org