Common Milkweed (kotolo) Asclepias eriocarpus

The cover drawing and article for this issue of the OBISPOENSIS was written and drawn by Alice Meyer. She was a very active member (and first Hoover Award Recipient in the 1970 and 80’s. She is the one who named our newsletter, OBISPOENSIS, and served as its editor (and typist) for the many years. She is also responsible for setting up the first successful chapter plant sales as well as recruiting our current Plant Sale Chair. She didn’t restrict herself to CNPS. She was also active in the Morro Bay Audubon to which she submitted a number of articles entitled “MEET A NATIVE PLANT”. Below is one of those articles. It was chosen since milkweeds are so important in the conservation of the Monarch butterfly and is being encouraged as a garden plant. Members of this genus serve as the primary food source for Monarch butterfly larva. While eating the milkweed leaves, the larva incorporate the milkweed toxins into their bodies and its these milkweed toxins that protect the Monarch larva from most predators.

I do need to mention a taxonomic update. In her first paragraph Alice places the milkweeds in the taxonomic family, Asclepiadaceae. This was where it was placed up until the 1990’s. Today the two families of milky sapped species [milkweeds (Asclepias) and dogbanes (Apocynum)] have been combined into the single family, Apocynaceae. Milkweeds are primarily temperate in distribution while the dogbane relatives are primarily tropical. Classical taxonomic work always accepted these two families as very closely related. Modern taxonomic studies (including DNA work) have discover the relationships to be intertwined which required their unification into a single family. A number of these formally separated but closely related families have now been combined. Dirk Walters

MEET A NATIVE PLANT Asclepias eriocarpus

Milkweed is a perennial plant of the milkweed family (Asclepiadaceae) family. The species shown is common in the Coast Ranges, Sierra Foothills south to Coastal Southern California from 100 to 2000 ft. The species known as Asclepias eriocarpa (as-KLEP-i-as aor-ee-CARP-a). Monarch butterflies lay their eggs on this plant. The plants are erect and sturdy from 18-36” tall, with leaves 3-4” long, in whorls of 3 or 4 leaves. These are covered with fine hairs, which make them look and feel like flannel. Stems and leaves contain a milky juice, a form of latex. The clusters of flowers appear in May at the ends of stems between the leaves. The structure of the flowers is very unusual. The corolla is cut into 5 petals. These are turned down so the hide the calyx. The stem stems stalks are joined into a tube and the five ‘hoods’ are attached to the base of the column; this is the ‘crown’ of corona, and in this species the crown is pink or purplish. It is actually the nectary of the flower. The flower and its stem is creamy white. In the center of the flower is a fleshy column or tube formed by the stalks of the stems, capped by the stigma, hiding the two tubes of styles leading down to the ovaries.

The pollen in each anther-cell is a waxy mass of different anthers and adjacent masses of different anthers are attached to a cleft gland. This resembles tiny saddle-bags, clipped together, and if a bee catches her foot in the cleft she may pull out and fly away with two pollen masses to fertilize another flower. To do this, she must get her foot caught in the cleft of another flower. The probabilities of a bee catching a foot in the cleft of two different flowers, first to collect the pollen sacs, then to deposit them in another flower is so remote that this is called ‘lottery pollination’. When a flower is pollinated its stem enlarges and the petals fall off. The calyx remains at the base of the downy seed pod which becomes 3 to 4” long and the remains of the hood hang on to the tip of the pod for time. When the pod is ripe, and dry, it splits lengthwise, revealing neat rows of seeds, each with a parachute of fine hairs attached. As soon as these seeds are dry, the seeds will fly away on the wind to be dispersed. Flowers that have not been pollinated along with their stems, wither and fall away.

Alice G. Meyer.
PRESIDENT’S NOTES

Calscape - Restoring nature one garden at a time! (Go to: calscape.org)

The goal at Calscape is to help Californians restore nature in their neighborhoods and gardens, and to save water in the process. We can do this by providing in-depth information about which plants are really native to any location in the state, helping to determine which ones to select, listing sources where the plants can be purchased, and then giving details about how to grow them.

The idea for Calscape comes from the notion that if our gardens were to transition from exotic to native landscapes, eventually they would become an extension of the natural open spaces that surround them. This, in turn would create a continuous natural habitat right across the urban spaces, providing incredible benefits to all living things. Of the more than 300,000 visits annually to the State CNPS website, roughly 200,000 are directed towards Calscape!

The estimates for which plants are native to any location in California are based on almost 2 million field occurrences of native California plant species collected over the last 150 years by the participants of the Consortium of California Herbaria. Seven variables are used to predict whether or not a given location should be included in a given plant species’ natural range: 1. elevation; 2. annual precipitation; 3. summer precipitation; 4. coldest month average temperature; 5. hottest month average temperature; 6. Jepson geographic subdivision; and 7. distance from a known plant occurrence.

Calscape uses an interactive format, where each user selects a series of options for the following plant characteristics: 1. your location (an address); 2. plant type preferences (from annual herbs to trees and vines); 3. sun vs. shade 4. the soil drainage capacity (from slow to fast); 5. the water requirements (from low to high); 6. the ease of care (from easy to difficult); 7. the common uses (from ground covers to hedges to bird gardens); 8. the availability in nurseries (from easily available to difficult to find); 9. the fragrance preferences; 10. the flower color preferences; 11. the flowering season preferences; 12. the height of the plants.

Calscape also offers a series of gardening tips: 1. How are California native plants different?; 2. How to choose and place the desired plants: soil conditions and topography, sun and shade conditions, etc; 3. How to plant California natives ; 4. How to water California natives: watering new plants vs. watering established plants: drip irrigation vs. overhead sprinklers vs. hose watering, etc.; 5. How to weed and control pests in California native gardens.

So, please visit Calscape on line and learn what a fantastic tool it is. Tell your friends about Calscape. Show them how easy it is to select native plants for their specific needs.

CELEBRATE NATIVE PLANT WEEK EVENTS IN APRIL

- Sunday, 16th, 1:00 p.m., Irish Hills Exploration Field Trip (see field trips section for details).
- Tuesday, 18th, Growing Ground Wholesale Nursery open to public (native plant discounts)
- Thursday, 20th 1:00-4:30 (Identifying Invasive Oak Pests And Diseases in San Luis Obispo County) Atascadero Library
- Saturday, 22nd 11:00-5:00 SLO Botanic Gardens ‘Earth Day Festival’
- 10:00 Atascadero Lake Pavilion ‘Native Garden Ribbon Cutting Ceremony’
- Sunday 23rd 10:00 Nipomo Native Gardens ‘Open House Tours’

John Doyle
San Luis Obispo County Sudden Oak Death Blitz, 2017

Sudden Oak Death (SOD) is a serious exotic disease that is threatening the survival of tanoak and several oak species in California, including coast live oak. Currently SOD is found in 16 coastal counties, from San Luis Obispo to Humboldt counties. SOD spreads from infected California bay laurel leaves to oaks during wet weather. Management options are available but they are only effective if implemented before oaks and tanoaks are infected, so timely detection of the disease on bay laurel is essential! This is where volunteers like you can help out and sample suspected bay laurel leaves at this year’s SOD Blitz in SLO County. The purpose of 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 maps can then be used to identify those areas where the infestation may be mild enough to justify proactive management.

The SOD Blitz begins with a training session/presentation where information on the disease and its symptoms on both oaks and California bays are presented, as well as how to collect and record samples of bay leaves. Volunteers then collect suspected bay leaves as well as information about trees and locations over the week-end. Collecting is done individually or in groups, and you can collect as many or few samples as you have time available before dropping off samples at the collection locations by noon Monday. All collecting materials will be handed out at the trainings. Suggested survey and collection locations will also be posted at the trainings, although you are welcome to identify your own property or area of interest. The collected samples are placed in bins at designated collections spots by Monday before noon so they can be sent to the Berkeley Lab for processing. This year, we will expect to have at least 2 free training sessions, one in North County and one in San Luis Obispo, and all materials needed for collecting will be provided.

The 2017 SOD BLITZ Trainings will be held on:
• Thursday May 11 from 1-4 pm at SLO County Department of Agriculture, 2156 Sierra Way, San Luis Obispo, CA (limited to 50 participants, registration is suggested but walk-in are welcome as long as space is available). Those of you that have collected past and want to collect in your areas in 2017, please let us know before the Blitz and we provide an updated map.
• Friday, May 12, 6pm to 8pm, SLO County Atascadero Library, Martin Polin Community Room, 6555 Capistrano Ave, Atascadero, CA.

Collecting will take place on Saturday and Sunday, May 13 and 14.
Register for Training: http://ucanr.edu/2017sodblitztraining

NOTE: Additional information will be posted on the CNPS SLO Chapter website (cnpsslo.org) and we will include a reminder in the May newsletter. Or, you can contact Lauren for additional information (lbrown805@charter.net, 805-460-6329).

Workshop: Identifying Invasive Oak Pests and Diseases in San Luis Obispo County
**FREE Workshop & DPR CEU’s are applied for**
April 20, 2017 Atascadero Library
6555 Capistrano Ave, Atascadero, CA 93422

1:00 pm – 1:15 pm Check-In
1:15 pm – 1:30 pm Welcome and Introductions
Lauren Brown, California Native Plant Society, San Luis Obispo County

1:30 pm – 2:15 pm Goldspotted Oak Borer: Life Cycle, Identification and Management
Speaker: Kevin Turner and Kim Corella, Cal Fire

2:15 pm – 3:00 pm Identification, Impact and Management of Shot Hole Borer
Speaker: Akif Eskalen, University of California, Riverside

3:00 pm – 3:15 pm Break

3:15 pm – 4:00 pm Sudden Oak Death: Identification and Management
Speaker: Kerri Frangioso, University of California, Davis

4:00 pm – 4:30 pm Questions for speakers
CHAPTER MEETING
APRIL IS OUR ANNUAL FIELD MEETING

Saturday, April 1, 2017, 8:00 am, Malcolm McLeod
Annual Field Trip Meeting at Carrizo Plain. Join us to explore and appreciate the remarkable and unique display of annual and perennial spring wildflowers in eastern San Luis Obispo County. This could be the BIG YEAR in this giant swath of undisturbed California Prairie. Remember, this is a remote area, so make sure you have plenty of gas, water, as well as food. 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 with a brief stop at Shell Creek. You may be able to carpool with someone, so it is recommended to arrange your ride ahead of time, or jump in with others at the meeting place. Be sure to wear sturdy shoes, bring sunscreen, a hat, and layered clothing for warmth, as needed. For more information contact: George Butterworth, (805) 438-3641, gbutterworth8@gmail.com or Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Obisopenis is published October through June except January. Items for submittal to Obisopenis should be sent to dchippin@calpoly.edu. 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 and www.cnpslo.org

MEMBERSHIP CORNER
Holly Slettland (hslettel@calpoly.edu)

Thanks to all of you that renewed your memberships this month! Your continued support enables us to offer our newsletter, field trips, workshops, plant sale and much, much more in the year ahead.

Albert Normandin
Francesca Fairbrother
Jeff Kwasny
John Veres
John & Alison Goers
Kevin & Marilee Statom
Lauren Brown

Conservation: Planning Commission Success on Oak Ordinance

We are happy to report that the Planning Commission not only approved the permanent Oak Protection ordinance, but actually strengthened it slightly. CNPS was well represented at the dais (thank you, good people!), although most other conservation organizations were not there to back us. About the time you will receive this newsletter, the Ordinance will go before the Board of Supervisors (the 11th of April). Their meetings have been bitter and divisive, and we have no idea if they will reverse the good work of the planning commission. Particular thanks goes out to Holly Slettland who has been organizing a petition of the occasion that has a lot of sign-ons. It is vital that if at all possible, you could attend and show where your sympathies lie. David Chipping

SEED EXCHANGE - Marti Rutherford

The subject of the seed exchange is being brought up at the next chapter board meeting. If we decide to hold another exchange we will need seeds. Many of our natives are just beginning to flower. But seed set has already occurred on some plants, such as manzanita. So keep your observational skills tuned and your collecting bags ready. We will keep you posted.

CAMBRIA FLOWER SHOW
Presented by Friends of the Fiscalini Ranch Preserve.

The show will be held on Saturday, April 29, from noon until 5:00 pm and Sunday, April 30, from 10:00 am until 4:00 pm at the Cambria Veterans Memorial Building, 1000 Main St. You will see 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. An entry donation of $3 is requested, Students are free. There will be:

- Hundreds of bouquets of fresh flowers labeled with botanical names and families, along with common names.
- Rare and endangered, invasive and poisonous plants will be identified.
- Plants are displayed in antique and interesting bottles and vases.
- Botanists will be on hand to answer your plant questions.
- Great treats at the wildflower Café.
- Helpful books, plant lists, wildflower seeds, Native Plant Society and Fiscalini Ranch Preserve apparel.

The purpose of the show is to enhance the enjoyment of wildflowers by educating, through viewing. Permitted and trained teams of collectors will be picking flowers for educational purposes, from habitats with large populations, so that people can learn to enjoy them in their natural habitats without picking the flowers themselves. For more information, please call 927-2856 or e-mail us at ffrpcambria@sbcglobal.net.

photo David Chipping
At long last, after many years of work, our chapter-published *Plants of the Carrizo Plain* is just about ready for download on the chapter web site. **George Butterworth** is the prime contributor of botanic information, following many years of field work on the Carrizo Plain, Marlin Harms was the prime photo editor, with photo contributors from Jim Andre, Bill Bouton, Barry Breckling, George Butterworth, John Chesnut, David Chipping, Craig Cunningham, Robert W. Floerke, Leslie Hamamoto, Marlin Harms, Ken Hickman, David Keil, Neil Kramer, Keir Morse, Dirk Walters, and Kris Winchell. The book layout, maps and navigation was by David Chipping. John Chesnut and Steve Schubert helped in the early conceptual stages of the project.

There are 309 taxa represented. The electronic book is a PDF file containing clickable internal navigation. The “Flower Finder” page lists plants by flower color and form, such the number of petals. Clicking your selection will take you to that group of plants. You can return to this menu from any page. There is also a scientific name index and a common name index where clicking will take you straight to the plant. There is an introductory section on plant communities, maps of locations mentioned in the text and other information. You will note that the text is minimal in length and in a large font. This suits the logic that this be used ‘in the field’ on tablets and smart phones with small screens, as well as on home computers.

The program has been tested on Mac and Windows systems and Iphones where the free download Adobe Reader works as a viewer. Android’s version of Adobe Reader does not support the internal navigation links, but MuPDF and GoodReader are said to preserve navigation. We will be asking a nominal $10 to download the file, and we are grateful for all concerned in this project, especially George Butterworth, in supporting the local chapter with this new source of income that helps support the web page and our operations. The book is copyrighted, and so downloads are limited to all devices of a single user.

**BIRD’S BEAK** David Chipping

While attending a booth at the Morro Bay Bird Festival in January, I wondered if CNPS could hold its own in terms of bird names, and got to thinking on our Bird’s Beak plants. Thus this digression on the matter of Bird’s Beaks. If you pick up the old Hoover Flora of San Luis Obispo County you will find, under the family Scrophulariaceae, the genus *Cordylanthus* and the two species *C. maritimum* and *C. rigidus*. Oh how things change. First of all, both plants are now in the family Orobanchaceae, with all but five genera abandoning the poor old Scrophs. *C. rigidus* kept its genus, but *C. maritimum* became *Chloropyron maritimum*. Lest you want to go out and slap a taxonomist, our two bird’s beaks ARE very different, and one, alas, is at great risk. *C. rigidus* is essentially an inland species and can be found in such disparate places as the serpentinite hills above COSTCO in SLO, and on sandstone at the High Mt. Lookout in Los Padres National Forest. It is a rather rangy plant, often with foliage turning maroon-red when mature and bearing small flowers consisting of a flattened corolla reminding you of Daffy Duck’s bill, two vertically striped bracts that tightly enclose the corolla, and outer bracts that are deeply incised.

*Chloropyron maritimum* does have the daffy duck bill, but the enclosing bracts only cover the base of the corolla, the plant is only a few inches high, and is confined to an extremely narrow zone around the high tide line inside Morro Bay. Flowers are in spikes, as against being generally isolated in small clusters in *C. rigidus*. The risk for *C. maritimum* is that it seems to be confined to a very narrow zone that sees inundation in the highest tides, but which is irrigated by rainfall and freshwater seepage. This allows the plant to occupy a zone with only a couple of vertical inches of allowable living space. It occupies spaces behind homes on Butte Drive, Los Osos, the western Sweet Springs marsh, and a small area on the sand spit side of the bay. In all areas the band of salt marsh is narrow, and is backed by upland slopes that would allow no flat tidal marsh space as sea level rises. John Chesnut and myself met with others at Santa Barbara Botanic Garden to discuss what can be done to save this very rare plant which is listed by the State of California as Endangered and by the Federal Government as 'Endangered'. A working group has been formed, to register threats, conservation strategies and research priorities. Morro Bay is the most northern of the populations, and possibly the most at risk from rising sea level. There are research opportunities, especially in regard to soil salinity requirements in this critical few inches of habitat.
Sunday, March 26, 2017, 8:45 am, Coreopsis Hill (in the Guadalupe-Nipomo Dunes). This is a casual walk through the dunes to the top of Coreopsis Hill (one of the northern most populations of this amazing plant, Leptosyne gigantea). This is a moderate hike, about 3 hours round-trip. Dress in layers, bring water and snacks, and have your “Dune Mother’s Wildflower Guide” (copies will be for sale at the beginning of the walk). Long pants and closed shoes are recommended as the habitat is coastal dune scrub and there is the possibility of poison oak and ticks in the natural dune. To reach the trailhead, turn west on Oso Flaco Lake Road, off of Hwy 1 and proceed west 2.5 miles to Beigle Road. Look for a 6' tall wire mesh fence and steel gate for parking. Once you arrive, someone will direct you to parking. For more information call Lauren Brown at (805) 570-7993. Heavy rain cancels this trip (light rain, bring appropriate clothing).

Saturday, April 1, 2017, 8:00 am, Malcolm McLeod Annual Field Trip Meeting at Carrizo Plain. Join us to explore and appreciate the remarkable and unique display of annual and perennial spring wildflowers in eastern San Luis Obispo County. This could be the BIG YEAR in this giant swath of undisturbed California Prairie. Remember, this is a remote area, so make sure you have plenty of gas, water, as well as food. 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 with a brief stop at Shell Creek. You may be able to carpool with someone, so it is recommended to arrange your ride ahead of time, or jump in with others at the meeting place. Be sure to wear sturdy shoes, bring sunscreen, a hat, and layered clothing for warmth, as needed. For more information contact: George Butterworth, (805) 438-3641, gbutterworth8@gmail.com or Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Sunday 2 April 2017 9 AM, CNPS, LVBHS, 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 should be a great 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

Saturday, April 8, 2017, 9:00 am, Pecho Ranch, (PG&E property) near Montaña de Oro State Park. We will walk to the top of the ridge road, located on the north ranch. As we ascend the road, you will see the habitats change from coastal sage scrub to chaparral and bishop pine forest. The top of the road offers a view of Morro Bay and the Coon Creek drainage. Total distance is 5 miles, elevation gain is 800 ft., three hours. This is an RSVP only field trip open to 40 CNPS members. To place your name on the list, contact Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Sunday, April 9, 2017, 9:00 am, Wind Wolves Preserve, 16019 Maricopa Highway (State Route 166), between Maricopa, CA and Interstate 5. Join us for a daylong visit to Wind Wolves Preserve, part of the Wildlands Conservancy, located on the north slope of the Transverse Ranges, east of Maricopa, CA. This area has spectacular open spaces with carpets of wildflowers that stretch up into pine forests. We will meet outside the administration building at 9:00 am. Be sure to bring water, food, sturdy shoes, sunscreen, a hat, and layered clothing for warmth, as needed. Carpooling is available. RSVP if you plan to participate: Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.

Sunday, April 16th, 1:00 p.m., Irish Hills Exploration. Join us for a plant walk from the Madonna Road trailhead (southwestern terminus of Madonna Rd.) into the upper reaches of the Irish Hills Open Space. The vast majority of soils in this area are derived from serpentine, which is a metamorphic rock, high in magnesium and iron, while low in calcium, phosphorus, and potassium. The excess magnesium in combination with low levels of calcium, phosphorus, and potassium create a stressful environment for plant growth, and therefore inhibit the growth of the vast majority of both native and introduced species. The unique assortment of plants that do grow in the Irish Hills and on other serpentine-based outcrops surrounding San Luis Obispo, make for an exceptional mixture, which we will see in bloom on this walk. A plant list will be provided. The length is 5 miles, 700 ft. elevation gain, 3 hours. Be sure to bring water, food, sturdy shoes, sunscreen, a hat, and layered clothing, as needed. Contact: Bill Waycott, (805) 459-2103, bill.waycott@gmail.com. Rain cancels.
Dedicated to the Preservation of the California Native Flora

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 Bulletin, 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

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☐ Student $25
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