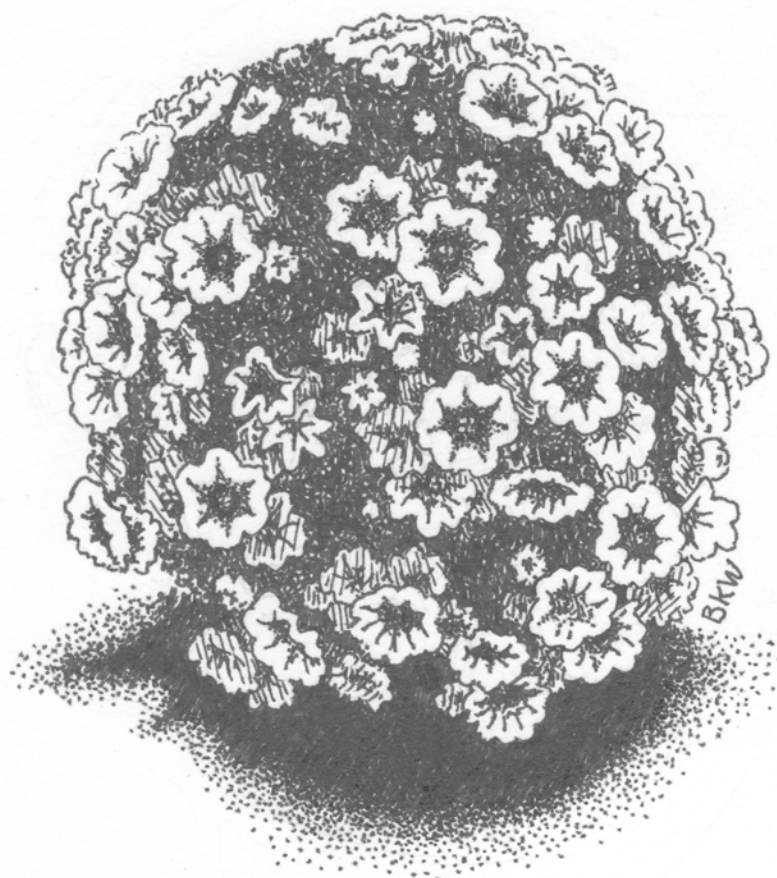


Obispoensis

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



November 2009

Pholisma arenarium

I'm guessing that there is not a single person who has seen the plant Bonnie has drawn for this cover who doesn't recognize it. It goes by the scientific name, *Pholisma arenarium*. As one might guess with a plant this distinctive it has many common names. The few names I've collected include pholisma, desert pholisma, sand plant, scaly stem sand plant, dune food, and purple sand food. However the name I prefer I first heard locally is golf balls or purple golf balls. All of these names apply to one or more of its conspicuous characteristics. *Pholisma arenarium* does have a scaly "stem"; it is purple when in bloom; and it grows only in coastal and desert sand dunes. Any name referring to its use as "food" is confusing since I found no reference to this species being eaten. I suspect it is a confused reference to a second species of *Phlosima* (or *Ammobroma*) (*P.* or *A. sonorae*, true sand food) a rare desert plant found in S.E. California, Arizona and New Mexico. True sand food is endangered by off-road vehicle activity so even it is NOT an appropriate food plant.

I put stem in quotations in the preceding paragraph because the plant we see from June through August in our local coastal dunes is actually just its inflorescence. An inflorescence is a group of flowers. In this case, the inflorescence is what botanists call a spike where flowers are borne stalk-less (sessile) on an elongate axis. Below the lowest flower is the inflorescence stalk (peduncle) that sinks anywhere from a few inches to a foot or more into the sand. All my references indicate that the peduncle arises directly from the root of another flowering plant such as *Ambrosia* (beach bur), *Croton* (*croton*), or *Ericameria* (mock heather). I'm not sure what exactly is happening at the peduncle-root interface. All but one of the references indicates that the peduncle arises directly from the host root which would make the vegetative part of pholisma totally inside the host plant's root. But Mary Coffeen, in her *Central Coast Wildflowers*, tells of recent research with radio active tracers that found radio activity not only in the host and in pholisma, but also in fungi associated with the host plant root. Mary suggests that pholisma may, in fact, be parasitic on the fungus and not directly on the host flowering plant. Certainly implied is that the fungus is mycorrhizal, which is a mutualistic symbiosis between the fungus and vascular plant root. The fungus allows an increase in the amount of soil water and nutrients that can be collected by the host plant roots. In return, the fungus is supplied with sugars produced by its host. I'm guessing that the radio active tracers could simply have passed into the fungus and pholisma separately and not serially as implied by Mary. Either

way, I find it very intriguing. I assume the radio active tracers were applied to the host plant and not to the soil.

Finally, those familiar with my articles might notice a glaring deficiency. I haven't stated to which plant family pholisma belongs. This is because it appears to be in flux. All the current published floras put it in its own small family (Lennoaceae) which currently consists of a couple of genera of parasitic desert and or sand dwelling plants. But recent analysis based heavily on DNA sequences sink the Lennoaceae into a group or complex of formally independent families known collectively as the Boraginaceae Complex. Unfortunately, I more recently heard that the old family, Boraginaceae, no longer exists as it is being incorporated into the mint family (Lamiaceae). We will have to wait for the new Jepson Manual, which hopefully will be out late this year or early next, to get the final word.

Dirk Walters

Illustration by Bonnie Walters

President's Notes

I hope you all had a fine summer and enjoyed our first get-together in October at the Veterans Hall. The desert potluck was excellent, and the photographs supreme. We hope to see you at our Native Plant Sale where you can help solve our drought issues with some native plantings in your yard. See the 'ad' in this newsletter. Our next meeting and speaker is on the 5th at the Vets Hall. These are fun evenings, so please come.

The big news over the summer is the completion of the City of San Luis Obispo's wildflower guide, created by a team of CNPS members, and which is being partly funded by our chapter. Congratulations to all who worked on this (see Book News for more info.)

We are encouraging all our members to contribute some money to the almost completed purchase of Wild Cherry Canyon which will add a very large section of land near Avila beach to Montana de Oro State Park. Although State parks are in temporary trouble due to California's budget problems, this purchase is a one-time-only opportunity, and American Land Conservancy and Kara Blakeslee have done a tremendous job in getting us so close. Their web site is <http://www.alcnet.org/>

Chapter members have been active in helping out our open spaces over the summer, including a cleanup of the dunes near Los Osos of a large abandoned homeless camp in the middle of Morro manzanita habitat and some veldt grass removal operations.

David Chipping

Conservation Issues

There have been several major developments reaching the review stage during the summer. CNPS did not have a plant-related nexus for commentary on the giant San Miguel Ranch project, but agree with the Planning Commission that the project is essentially urban sprawl that is isolated from the urban core of San Miguel, violates agricultural conservation policies, and will contribute to potential groundwater overdraft.

Of much greater threat is the proposed annexation into Pismo Beach of the Price Canyon area. A constraints analysis shows many populations of rare plants, especially Pismo clarkia, and Pismo Beach is not exactly well known for its protection of natural habitat. There are two CNPS List 1B.1 taxa (seriously endangered in California), five CNPS List 1B.2 taxa (fairly endangered in California) and four CNPS List 4 taxa (limited distribution, at risk). One problem for us is that the Clarkia is listed under the California Rare Plant Protection Act that preceded the California Endangered Species Act, and thus can be interpreted in some quarters as being subject to more liberal “take” provisions. We will be watching this very closely.

I continue to worry about the California Ranch Solar Plant, one of three in California Valley. It will extend almost the whole way from the Seven Mile Road/Belmont Trail intersection to the east-west stretch of Highway 58 east of Soda Lake Road. It appears to reach Belmont Trail to the east of the Cambria Road/Belmont Trail intersection, getting close to the vernal pool

complex and the flower fields northeast of the vernal pools between Clarksburg and Cambria Roads. Apart from the visual blight, this site will require a new transmission line, unlike the other two plants that are north of Highway 58. Detailed maps for the project footprint are unusually hard to find, but exist in Appendix A-Biological Assessment that can be downloaded from the County Planning website [<http://www.slocounty.ca.gov/Assets/PL/SunPower+-+High+Plains+Solar+Ranch/Initial+Application+Submittal/12+Appendix+A+-+Biological+Resources+Assessment.pdf> -ed.]. I am looking for photographic evidence of botanic issues to the east of, but not including, the usual stopping point for vernal pool-viewing along Belmont. This is a terrible location for the plant, which should be located close to the northern transmission line like the other two, north of Highway 58.

Another concern is the defunding of state park operations such as exotic weed control. The County Weed Management Area is also struggling for funds, although Marc Lea is doing an excellent job of holding things together. I want to thank Lauren Brown for her continued work with the WMA.

I need to get a work party together to attack an invasion by pampas grass of the Chorro Creek bog thistle habitat in SLO's Laguna Park. This will involve some nasty pick and shovel work, so call me 528-0914 or e-mail me (dchippin@calpoly.edu) if you want a workout sometime this fall. We have the go-ahead from the City on this.

David Chipping

Chapter Meeting

Our November speaker is Brett Hall, President of the Board of Directors of CNPS. He is also president of the Santa Cruz Chapter and works as manager of the UC Santa Cruz Arboretum with living collections and native plant programs. His favorite project in the Arboretum is the development of the California Province gardens that will feature central coastal California and selected regions of northern California. He is currently working with CNPS Vegetation Program staff in developing the Rare Communities project.

Thursday, November 5, 7:00 p.m. at the Veterans Hall, 801 Grand Avenue, San Luis Obispo.



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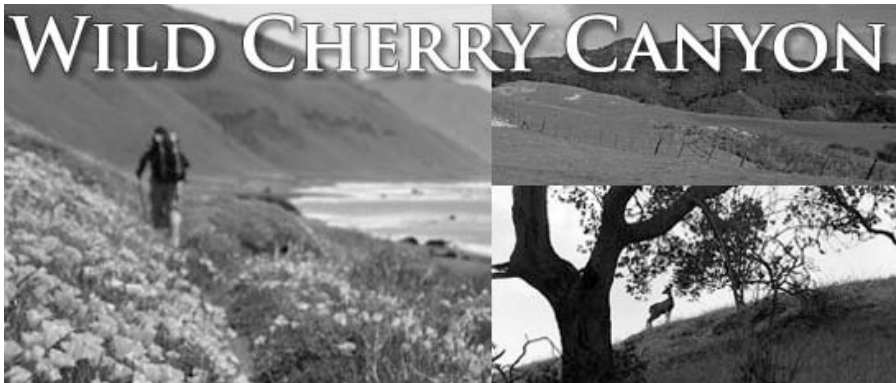
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Please donate to help us ensure future generations will still have wild places to explore and enjoy.

The **Wild Cherry Canyon property** consists of approximately 2,400 acres located on the Pacific Ocean along California's central coast. Coastal scrub, coast live oak woodlands, wildflower fields and native grasslands, and some of the only known undisturbed stands of coastal terrace prairie remaining in the state are found in the Irish Hills, as are mixed evergreen and oak forests and one of the few bishop pine forests in the country.

Upland includes chaparral and endemic serpentine habitats, native steel-head trout and the threatened California red-legged frog are found in coastal creeks in the area. The healthy forests of the region support numerous neotropical migratory birds.

American Land Conservancy is asking conservation-minded citizens like you to give what you can and ask your friends to join you. EVERY donation counts, every donation will be leveraged many times over by other funding sources, every donation is tax-deductible, and every donation will be applied in full to the acquisition!

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For information about this project visit the website:
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To learn more about giving to American Land Conservancy, please contact them at (415) 912-3660 or info@alcnet.org.



Obispoensis is published October through June except January. Items for submittal to *Obispoensis* should be sent to rhtaling@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 and www.slo-cnps.org

Book News and More...

Hello to all our C.N.P.S. friends. It feels good to be back in the groove, and ready for another great year of CNPS meetings, field trips, plant sale, and other events. Please make sure you stop by our book-sale tables and check out all our NEW BOOKS!

We've added some requested titles such as

- *Seed Propagation of Native California Plants* by Dana Emery, \$15.00
- *Landscaping with Native Plants of Southern California* by George Miller, \$25.00
- *Plants of San Luis Obispo, Their Lives and Stories* by Matt Ritter, \$28.00
- *Landscape Plants for Western Regions* by Bob Perry, \$35.00

Wildflowers of San Luis Obispo, published by the city of San Luis Obispo, is being printed as I write this. We are counting on this being available at our November meeting. I think everyone will want a copy of this book; we've ordered enough copies for everyone. The book identifies over 250 of the beautiful wildflowers to be found in the open spaces of San Luis Obispo and immediate area. It lists common and botanical names, provides a description of the flower and where it is frequently found, and some truly gorgeous photographs. CNPS members Dr. David Keil, Dr. Dirk Walters, Marlin Harms, Steve Schubert, John Chesnut, Jim Johnson, and City Natural Resources Manager Dr. Neil Havlik have all donated countless hours for the past year assembling, photographing, and describing all the plants within a five-mile radius of downtown San Luis Obispo. Appropriate photographs have also been provided from the extensive collections of Dr. Malcolm McLeod and Craig Cunningham. I think this book will be appreciated by new-comers to the area as well as hikers of our open-space trails, and should also be a fine gift.

We've received a new supply of the *Grasses* posters. These come as a set of four place-mat sized posters, each poster is laminated, three of the posters in a set identify native grasses and the fourth poster identifies non-native grasses. Price is \$20.00 for each set of four beautifully detailed posters.

We have added a new item to the book table...CAPS! Each baseball cap is a soft fabric in sage green with SLO-CNPS embroidered in poppy gold. Pick yours up for \$10.00.

Stop by the book-sale tables and say Hi, and look over our expanded selection of books, posters, tees, caps, cards, etc. See you November 5.

Heather Johnson

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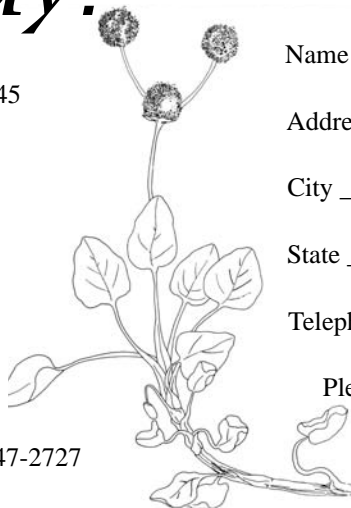
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The California Native Plant Society is a statewide non-profit organization of amateurs and professionals with a common interest in California's plants. The mission of the Society is to increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education and conservation. Membership is open to all. Membership includes the quarterly journal, *Fremontia*, the quarterly *Bulletin*, which gives statewide news and announcements of the activities and conservation issues, and the chapter newsletter, *Obispoensis*.



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