Rein Orchid (Piperia sp.)

This is going to be a different kind of article because Bonnie’s drawings and my article are derived from photographs and not actual plants. Half of the photographs were provided by the good people of the Elfin Forest Swap and taken in the Elfin Forest, while the rest are from slides taken by me back in 1977 & 1978 in the dunes at Montana de Oro. All of the pictures may be of the same species or not. I’m not sure. Therefore, I’m going to be somewhat general in the identification of the featured plant(s). Having said that, I can say that it is definitely what is commonly known as a rein orchid or rein orchis. This common name has been applied to a number of species of tall, slender orchids possessing relatively small flowers borne in an elongate cluster (raceme or spike). The only difference between these two types of flower clusters (inflorescences) is whether or not the individual flowers bear a stalk or pedicel. Flowers in a spike lack it while those of a raceme possess them. In orchids, these two types of inflorescence are almost impossible to distinguish in a photo because the orchid ovary is borne below the flower (inferior) and is usually long and thin and therefore resembles a flower stalk. Further, none of the photos have a scale in them, so it is impossible to know exactly the sizes of the various parts. This is important because the most important distinguishing characteristic between two of the more likely species is the length the spur. Is it 0.5 to 6mm or is 6 to 12mm? The only drawing with a definite spur showing is the one of the bud and it shows what looks like a fairly long spur. A spur in this group of orchids is a projection of the lowermost petal which forms a tube that sticks out behind the flower just below the ovary. Spurs usually produce a nectar producing gland (nectary) at their tip.

If identifying a plant from a photo is not tricky enough, there is also the problem with inconsistency of the treatments of this group of orchids in the various identification books available for our area. Older works place our plants in the genus Habenaria. The current Jepson Manual places our plants in the genus Piperia. Dr. Hoover in his, The Vascular Plants of San Luis Obispo County, California, recognizes only one species of rein orchid – Habenaria unalascensis. Mary Coffeen places her only species in Habenaria elegans. In The Jepson Manual, both of these species have been moved to the genus Piperia. In a soon to be available, A Pocket Guide to the Wildflowers of San Luis Obispo, a very similar plant (in a photo) is placed in the species Piperia elongata. All of these species occupy identical dry, shrubby or woodland habitats. So there is no help there. At the end of description of the genus, Piperia, in The Jepson Manual, it states that the several green flowered species are difficult to separate and of doubtful validity. Unfortunately all our pictured “species” have green flowers. There is a revision of The Jepson Manual due out soon and an update for Hoover’s book in the works. So hopefully when they come out, all our identification problems will be solved.

The orchid family (Orchidaceae) is probably the second largest family of flowering plants in the world. The Jepson Manual recognizes 11 genera and at most 31 species in the state. Dr. Hoover recognized only three genera and seven species in SLO County. How can these numbers be reconciled? Almost all orchid species are found in the tropics where they tend to occupy very restrictive habitats such as rain forest tree branches (epiphytes) where they require the correct fungal species to be associated with it. Many of them have very exacting, low probability pollination systems as well. One study I heard about at a botanical meeting is of particular interest. The researcher searched a small forest tract in Ecuador. He counted 100 plants in flower of a particular orchid species. He then determined how many of these plants produced fruit. Of the 100 plants, only 10 were actually visited by its pollinator. Of the 10 visited, only one actually matured fruit. This is a success rate of only 1%! However, the orchid had an ace up its petals. Each orchid fruit contains 100 thousand to 1 million seeds and the pollen come bundled in packets (called pollinia) each containing an even greater number of pollen grains. So, that single fruit potentially produced over 100 thousand seeds. Many orchids have played this high stakes game of chance. Unfortunately many are losing. Of all the families of flowering plants, orchids have the largest percentage of species listed as rare and/or endangered. So even if I don’t know of any sexy, specialized features of our local rein orchid, it is so localized in its distribution that it is still a real treat to find it. And I say this even though its flowers are small in size and mostly green in color. We have to enjoy our few orchids whenever and where ever we find them. Dirk Walters

Illustration by Bonnie Walters

Members’ Photos and Dessert

San Luis Obispo
Chapter Meeting:
Thursday, October 1,
6:30 p.m. Dessert Potluck and Members’ Slide Show
Bring a dessert to share and your 15 best photos, slides and digital pictures. Meet at the Veterans Hall, 801 Grand Avenue, San Luis Obispo. Call Dirk Walters, 543-7051, for information.
Report on Field Trip to the North Coast Bluffs
By Mardi Niles

As the June 6 field trip to the north coast bluffs approached there was some concern that the trip, scheduled to start at the Elephant Seals Overlook at 9:30, would be blown out by mid-day, as the north coast is know for cold northwest winds. As it turned out, that particular day was the most beautiful day one could ever imagine. The sky was a magical play of light turquoise blues striped with soft white stratus clouds. Then over the Santa Lucia Range cumulous clouds lingered from the passing weather system from the night before. The ocean was calm and flat with dark clumps of kelp beds the only contrasting color to the expanse of soft blues out to a fuzzy horizon. As the morning unfolded the air became warm and made for a very pleasant day.

With this backdrop we were additionally fortunate to have as our trip leader D. R. “Doc” Miller. “Doc” has a vast knowledge of the plants of northern San Luis Obispo County. With his contagious enthusiasm we started walking 4.2 miles north up Highway 1 on the trail at Arroyo de la Cruz. No sooner were we on the trail than we found many specimens of prostrate clarkia, Clarkia prostrata. There we also found, Cirsium occidentale var. compacta, Eschscholzia californica var. maritima, Archillea millefolium, Dudleya farinose, Stachys bullata, and Armeria maritima var. californica, to name just a few of the plants.

We then traveled north 2.1 miles to Arroyo de los Chinos, where we were greeted on the coastal prairie by a big clump of sedge, Carex spissa, surrounded by blue eyed grass, Sisyrinchium bellum (Over on the edge of the bluffs there were even some white blue eyed grass!!) and yellow eyed grass, Sisyrinchium californium and a blooming California wild rose. Then we found dwarf brodiaea, dwarf golden star, coastal gum plant, cinquefoil and yellow mariposa lily, Calochortus luteus, but no rare Calochortus clavatus ssp. recurvifolius. “Doc” suggested returning in early July to try to find it along the southern bluff edges. (Note: Many of us did and it was there.)

Along the trail Carole Adams and the PBLLS park manager caught up with us with an invitation to spend the afternoon at Piedras Blancas Light Station for a private tour of the grounds and buildings there. Many of us had participated in work parties there over the past few years and she wanted to thank us with this special offer. The renewal of California native plants there, since the massive removal of ice plant had been undertaken, was a treat to see. The Eriophyllum staechadifolium, lizard tail, was in full bloom and yellow was the dominate color of the afternoon tour. And the weather stayed warm, almost hot, as we all enjoyed the day along the coast with no wind and no fog. We were able to take it all in including a climb up the circular staircase of the light house itself for a panoramic view of the seemingly endless, remote landscape that is our very own north coast bluffs of San Luis Obispo County.

Photos courtesy of Steve Schubert, Mardi Niles and Bob Hotaling
As one drives around in September, brilliant yellows, cheerful whites, subtle pinks, and even chartreuse greet us from bushes and roadsides. Except for the bright red leaves on poison oak, Toxicodendron diversilobium, few of our lower elevation natives have the brilliant red, orange, and yellow leaves that festoon mountain and eastern areas, yet many of our fall flowers and leaves have their own unique if subtle charm. This is when our fall-blooming DYC’s come into their own. Even the lowly coyote brush, Baccharis pilularis, one of the few dioecious, shrubby, non-showy composites that I know of, has its “Fifteen minutes (or 1-2 months) of Fame.” The subtle yellow staminate flowers of male plant, AKA “Mr. Fuzzy-Wuzzy,” shine with pride, and are quite fragrant, especially in bright sunshine. The white, powder-puff plumes and smaller blossoms of the female plants, AKA “Mrs. Fuzzy-Wuzzy,” greet those who have the eyes to see them.

This is indeed the season of yellow flowers. Prominent are the “diaspora” members of the Haplopappus genus, i.e. the various golden bushes, Hazardia, Hemizonia, Ericameria, and Isocoma spp. The mock heather, Ericameria ericoides, looks as if its tops were spray painted. The tarweeds, Hemizonia and Madia spp., rabbit brushes, Chrysothamnus spp., goldenrods, Solidago spp., and telegraph weed, Heterotheca grandifolia, also greet the viewer.

White is represented by both flowers and plumes. Various Lessingia spp. bloom in the fall including one appearing late enough to be known as the “Christmas Daisy.” A few late-blooming buckwheats, Eriogonum spp., morning glories, Calystegia spp., and Mexican elderberries, Sambucus mexicana, are evident. The dandelion-like plumes of the composites, the pheasant feather-like plumes of the western mountain mahogany, Cercocarpus betuloides, and the fluffy plumes of the Cottonwoods, Populus spp., also liven the fall vegetation.

Pink is seen in the twiggy and other wreath plants, Stephanomeria spp., maturing buckwheats, Eriogonum spp., and the ubiquitous naked ladies, Amaryllis belladonna. But chartreuse? This is found in the rare but, in places, locally abundant seaside birdsbeak, Cordylanthus rigidus spp. litoralis. A spectacular display can be seen on SR 1 between Vandenberg Village and Allan Hancock College, where the highway crosses Deer Creek.

Ah yes, beauty is in the eye of the beholder. As plant lovers we should not only see our subtle Fall beauty, but should be sharing this vision with others. Check Field Trips for our mid-October Burton Mesa Chaparral tour at the La Purisima Mission.

~ Charlie Blair

Field Trips & Events

Saturday, 3 October, 9:00 a.m., Fall Plant Walk, La Purisima Mission: Charlie Blair is leading a tour of fall-blooming plants of the Burton Mesa Chaparral. Come and see what is out at this sometimes forgotten time of the year. Meet at 9:00 a.m., east end of Burton Mesa Boulevard (1550 E. Burton Mesa Blvd.) in Mission Hills at the Community Service District Office. From the north, take the Constellation Road off-ramp from SR 1, heading left, then turn right on Burton Mesa Boulevard. From the south, Burton Mesa Boulevard can be accessed from either Harris Grade Road or Rucker Road; again turn right. Call Charlie Blair, 733-3189, for details.

Sunday, 15 November, 2:00 p.m., LVBHS Fall Plant Exchange, Lompoc Methodist Church: Please join us for our Fall Plant Exchange and Tool Sharpening session. Come share those extra favorite plants that are too good to throw away. We will also have tips on planting and pruning. Remember also that this is meeting where we nominate next year’s officers. We meet at the Methodist Church in Lompoc corner of N. “F” and E. North Streets at 2:00 p.m. Call Martha Galisky, 735-4225, or Rosemary Holmes, 735-3974, for more information.

Jepson Workshops

December 12 – 13, 2009
Tom Bruns and Else Vellinga, instructors
Location: Valley Life Sciences Building, UC Berkeley and a local field site

The warm, wet winters and the variety of habitats found in California make it one of the best places in North America to find both an abundance and a high diversity of fungi. This workshop will provide an introduction to the biology and identification of California’s mushrooms. Through a combination of lectures and discussions, workshop participants will learn about the evolutionary history of fungi and the ecological role of fungi in nature. Most of the time will be spent with fresh mushrooms in the lab. This will create hands-on opportunities for learning how to identify mushrooms. A field trip on Saturday will be a highlight of the weekend. Course fee ($235/$260)

Contact Cecile Shohet, Coordinator, Public Education, cshohet@berkeley.edu, phone (510) 643-7008, fax (510) 643-5390

Evolution and Diversity of Mushrooms
Hi everyone, I hope you have all had a great summer complete with many fun projects in the outdoors. I had a great summer and as a matter of fact I can safely say that I spent at least five hours a day working in the garden. Oh, did I remember to tell you that it is my job! Ha, Ha, a little humor to start things off. Seriously, I do hope you had some fun in your garden.

Lately, as I look around at my yard I'm starting to see most of my native plants going into their fall dormant period. This dormant period usually occurs during September and is accelerated by the hot dry winds we call Santa Annas. These winds can be devastating when combined with fire. This is the case with the fires we have seen in the Los Angeles area. Taking this into consideration I thought this would be a good time to revisit which plants are best to plant in a fire prone area.

For the most part California native plants have adapted to burn. You don't have to look very far to see fire scars on many of the trees and shrubs growing on the hills around San Luis Obispo. Studying these areas can help us to understand which plants burn the best and which don't. If you had a chance to be around just after the Highway 41 fire, you would have noticed most of the chapparral shrubs burned completely to the ground. Plants such as chamise and sage frequently dominate these areas. Both of these plants have small leaves which are full of oils. These oils help the plants conserve water by protecting the leaf surfaces from the sun. You could of think of it as plant sunscreen. Unfortunately, this sunscreen is also very flammable. Using this knowledge as a guide we can conclude that planting sage, chamise, or any other plant with high oil content would not be a good idea in a fire prone area.

Let's continue now by thinking back to the areas that did not burn as easily. Most of these areas were located in creek beds or on north facing slopes. We could think of these areas as semi-sun or shady locations. If we take a closer look at the plants growing in these locations we would notice that they all have one thing in common.

Their leaves are large, do not have much oil, and are very green. These characteristics are due in part to the lack of sun. These plants must grow larger leaves to gather more sunlight for food manufacturing. Plants common to these areas are sedges, rushes, willows, oaks, and ribes. Now we can take it to the next step by concluding that plants growing in these locations would be good picks for fire prevention. "O.K., John," you say, "there is only one problem. I need a plant that can grow in full sunlight." All right, let's return to our findings. First, plants that have small, oily leaves are most flammable and second, plants that have large leaves are most fire resistant. So the answer to the question is, find plants that grow in full sun with largest leaves and the least amount of oil. One good example of a plant like this is toyon (at left). Toyon has very large green leaves and grows in full sun. Another fine example would be coffee berry, which grows in full sun or part shade. It has large green leaves and many different cultivars. Lastly, Garrya (at right) or silk tassel tree is also a great choice. It grows to about 20 feet and has spectacular flowers. So as you can see with a little investigation we can make our gardens fire resistant by selecting plants with the largest leaves and the least oil.

I do hope to see you at our first meeting in October. I will be there to answer any questions. Also, remember the plant sale is coming in November, so please volunteer by signing up with the form in this newsletter. The plant sale is our biggest fundraiser and I need many helpers to make it successful. So, be thinking about these fire observations when you pick your plants for fall planting. I want you to get off to the right start and as always if you have any questions to feel free to call me. Happy gardening, John.

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**Native Plant Sale Volunteers Needed!**

Hello everyone, I hope you have enjoyed your summer and are now looking forward to the fall. I'm hoping that I can plan on all of you coming out to help this November 7. Please fill out the volunteer form on the back page and mail or hand deliver to me at the October meeting.

It's a lot of fun to work the sale because you will get first pick of the best plants and meet lots of interesting people. Lastly its a chance to socialize with others in the group, kind of a big get together. So get out your favorite pen and sign up today.

~ John Nowak

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**Fourth Annual SYVNHS Plant Sale Fundraiser**

The Santa Ynez Valley Natural History Society is having its fourth annual plant sale this year at the Dunn School campus in Santa Ynez, Roblar Street Entrance.

The plant sale will feature native plants, many of which have been propagated from materials of local origin. This includes native grasses and hard to find bulbs. Other plants that should thrive in the Valley will also be available, along with expert horticultural consultation.

Date: Saturday, October 24. SYVNHS members will be admitted at 9 a.m. The public is welcome at 10 a.m.
Richard Halsey To Be Featured Speaker At Small Wilderness Area Preservation Annual Meeting

S.W.A.P. will hold its Annual Meeting Saturday, October 17, 12 noon to 3 p.m., at the San Luis Obispo Botanical Garden’s Oak Glen Pavilion, located in El Chorro Regional Park across from Cuesta College.

Our guest speaker is Richard W. Halsey, Director of the California Chaparral Institute (www.californiachaparral.org), a non-profit research and educational organization based in San Diego. The title of Mr. Halsey’s presentation is “THE CHAPARRAL, A NEW WAY TO LOOK AT LIFE”. It will be a fascinating description of the California chaparral ecosystem, its myths and mysteries, and its relationship with fire. Rick Halsey is well-known for his efforts to help Californians learn to appreciate the state’s beautiful shrubland ecosystems, including the Central Coast’s dune scrub community. He promotes a comprehensive approach to protecting homes from wildfire by using ember resistant building materials, creating appropriate defensible space, and developing community-wide fire education programs. The presentation will appeal to all of us who live in the beautiful but flammable Central Coast.

SWAP Conservation Chair Pete Sarafian will give a slide-illustrated report on the past year’s projects in the Elfin Forest. In addition, SWAP will celebrate the chapter’s volunteers and vote for Board members.

The meeting and presentation are open to the public; there is no charge. Invite your friends! Light refreshments will be served. For more information, call SWAP’s message phone, 805-528-0392.

Nipomo Native Garden Fall Plant Sale

WHEN: SUNDAY, OCTOBER 4, 2009
WHERE: FOR THE FIRST TIME, TO BE HELD AT THE NIPOMO NATIVE GARDEN
9:00 a.m. UNTIL PLANTS ARE GONE or 3 p.m.

- Approximately 1,000 plants including Nipomo Mesa natives, California natives and plants appropriate for the Mediterranean climate
- Hats and T-Shirts, newsletters
- Information about plants for your landscaping needs
- Come early for best selection, as the plants sell quickly

PARK IN THE NEW PARKING LOT ON OSAGE STREET

Directions to the Garden: In Nipomo, Tefft Street west to Pomeroy, left onto Camino Caballo, right onto Osage Street. Park in new parking lot.

RENEW ONLINE

Renew your CNPS membership online using a credit card. As an option, set it up to renew automatically year after year. It is quick, easy, convenient, and reduces renewal mailing costs. Go to www.cnps.org Click on the JOIN button.

Obisopenis is published October through June except January. Items for submittal to Obisopenis should be sent to rhotaling@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

Join Today!

- Limited Income $25
- Individual or Library $45
- Family, Group $75
- Plant Lover $100
- Patron $300
- Benefactor $600
- Mariposa Lily $1500

I wish to affiliate with the San Luis Obispo Chapter

Inquiries
Phone: (916) 447-2677 Fax: (916) 447-2727
e-mail: cnps@cnps.org
Websites: www.cnps.org & www.cnps-slo.org

☐ Renewal

Name ________________________________

Address ______________________________________

City ________________________________ Zip Code _______________

State ________________________________

Telephone ________________________________

Please make your check payable to CNPS and mail to:
California Native Plant Society
P.O. Box 784
San Luis Obispo, CA 93406
Autumn Garden Festival
Saturday, October 10th, 8:30 am - 4 pm
Colony House - 6600 Lewis Ave

In response to community-wide interest for more sustainable landscaping information, the Atascadero Mutual Water Company is hosting a free Autumn Garden Festival and landscape symposium. Please call to 461-7217 x22 to reserve a seat.

Free 20-minute talks on sustainable landscape topics by local experts
Local organizations and exhibits supporting landscape sustainability
Multiﬂora Garden Club plant sale beneﬁting local scholarships
Local artists  Free raffle and prizes

Time | Landscape Topic | Local Expert
--- | --- | ---
9:00 AM | Successfully combining native and ornamental plants in the landscape | Christy Edstrom O’Hara, Assistant Professor Landscape Architecture Dept., Cal Poly
9:30 AM | Converting your lawn to a water-conserving landscape | Josh Carmichael, Carmichael Environmental Services
10:00 AM | Landscape restoration and design | Katy Moore, Healing Earth Designs
10:30 AM | What to expect from your landscape contractor | Erik Wolting, President - SLO Chapter CA Landscape Contractors Association
11:00 AM | How to make your sprinkler system more efficient | Dave Wesolowski, Sprinkler King
11:30 AM | Graywater systems and the new Graywater Manual | TBD
12:00 PM | Creating rainwater gardens | Josh Carmichael, Carmichael Environmental Services
12:30 PM | Creating a native lawn | Rick Matthews, Madrone Landscapes
1:00 PM | Maintaining oak trees | TBD
1:30 PM | Growing lavender | Janice Silva, Green Lavender Farm
2:00 PM | Planting under oak trees | Rick Matthews, Madrone Landscapes
2:30 PM | Fruit trees for Atascadero gardens | Marcia Guelff, Bay Laurel Nursery
3:00 PM | Introduction to weather-based irrigation controllers | Aaron Husley, Ewing Irrigation

Please Join Us!
INTERESTED IN PROMOTING YOUR ORGANIZATION TO YOUR TARGET AUDIENCE?
Organizations, artists, and local businesses supporting sustainable landscapes are invited to sell wares, memberships, and share information.

Simply call 461-7217 ext.17 or email jlien@amwc.us to reserve a space.
See all your friends at the Garden Festival!
Atascadero Native Tree Association  Atascadero Mutual Water Company  California Landscape Contractors Association  Carmichael Landscape Services  Living Irrigation  Green Acres Lavender Farm  Healing Earth Designs  Madrone Landscapes  Multiﬂora Garden Club

Eriogonum nudum
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 October 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, Dr. David Chipping, 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 October 1st.

Heather Johnson
CNPS Native Plant Sale Volunteer Sign Up

Former Heritage Oaks Bank Building, Madonna Plaza, San Luis Obispo
Saturday, November 7, 2008

Name: ____________________________ Telephone: _________________

Please mark the hours you can help

- 7 - 8 a.m.  • Help as needed
- 8 - 9 a.m.  • Set up tables
- 9 - 10 a.m.  • Hang Signs
- 10 - 11 a.m.  • Sell seeds
- 11 - 12 p.m.  • Cashier
- 12 - 1 p.m.  • Unload & set up plants
- 1 - 2 p.m.  • Sit at sales table
- Help as needed
- Set up tables
- Hang Signs
- Sell seeds
- Cashier
- Unload & set up plants
- Sit at sales table
- Sell plants
- Load customers’ plants
- Sell books & posters

Please complete this form and bring it to the October meeting for John Nowak or mail it to him at 8605 San Gabriel Road, Atascadero, CA 93422.