

NORTHERN CALIFORNIA BOTANISTS

BOTANICAL LEAFLETS

ISSUE 4 FALL 2009



PRESIDENT'S MESSAGE

Spring and summer 2009 have been busy for Northern California Botanists. For the second year in a row, we awarded 7 scholarships for \$1,000.00 each to botany students as a way to promote botany in Northern California. We also celebrated National Botanist's Day with three field trips: in May we offered a trip to a newly discovered serpentine outcrop

in the Concow area on the Plumas National Forest and a lovely hike on the Waters Gulch trail at Lake Shasta on the Shasta-Trinity National Forest. In June, we visited the Saddle Gulch fen near Wildwood on the Shasta-Trinity National Forest.

We are planning our third symposium on January 11 and 12, 2010 at California State University, Chico

with workshops on January 13, 2010. Hope you can attend. If you are able to help with our 2010 symposium, let us know.

For more information, see articles within this newsletter on these topics.

Have a great fall!

Linnea Hanson

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NORTHERN CALIFORNIA BOTANISTS PRESENTS 2010 SYMPOSIUM - BOTANICAL TREASURERS IN NORTHERN CALIFORNIA - WHAT'S AT STAKE?

Northern California Botanists is hosting a symposium on **Jan 11-12, 2010**, at the Bell Memorial Union located on the California State University, Chico campus at 400 West First St. A 2-day schedule of presentations by

working botanists from around the North State will provide updates and perspectives on conservation genetics, invasive species, pollination, herbivory, ecosystem conservation, bryophytes, new discover-

ies, and mentoring new botanists; all emphasizing northern California. Workshops will be held the next day, Jan. 13. For more information, visit our website at www.norcalbotanists.org

BRING A POSTER TO DISPLAY YOUR WORK AT THE NCB 2010 SYMPOSIUM

NCB invites you to the symposium's poster session to share your Northern California plant life with others. The deadline for poster abstract submittal is December 1, 2009. Topics include: Northern California botanical work, plant conservation

issues, new information (see topics in agendas for 2007 and 2008 Symposia for ideas). The posters will be displayed at the Bell Memorial Union main auditorium on January 11-12, 2010. The Monday evening reception will be near

the poster display. For more information, visit our website at www.norcalbotanists.org or contact **Barbara Castro** at barbcastro@hotmail.com

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NCB 2010 SYMPOSIUM - HIGHLIGHTS

Our third symposium will include two full days of talks on Monday and Tuesday and optional workshops on Wednesday. Join us at the reception in the poster-display area for complimentary appetizers and a no-host bar on Monday following the afternoon session. A banquet will follow (tickets required) and will include our Keynote Speaker:

Bruce Baldwin, UC Berkeley, "Impacts and consequences of molecular taxonomy to botanical conservation"

Monday, January 11, 2010	Tuesday, January 12, 2010	Wednesday, January 13, 2010
Session 1: Maintaining Plant Genetics and Long-term Conservation	Session 1: Tools for Conservation of Ecosystems	Introduction to the 2nd Edition of "A Manual of California Vegetation"
Session 2: Exotics—Robbers in the Native Landscape	Session 2: Bryophytes	Resources for Beginning Professional Botanists
Session 3: Pollinators and Reproductive Biology	Session 3: How do we encourage future botanists for sustainability	Hands-On Botany Lab for Teachers
Session 4: Plant Animal Interactions/Herbivory	Session 4: New Discoveries	Restoring Great Valley Riparian and Floodplain Habitats along the Sacramento River

BOOK REVIEWS ON SYMPOSIUM 2010 AUTHORS

We are fortunate to have the authors of several new books attend the NCB Symposium in January 2010.

Pete and Judy Haggard will be speaking in the Pollination and Reproductive Biology session on *Native Insects of Northern California*. The Haggards are the authors of the book, *Insects of the Pacific Northwest*. This book is a comprehensive guide to insects of the Pacific Northwest, with coverage from southwestern British Columbia to northern California, from the coast to the high desert, it describes more than 450 species of common, easily visible insects and some non-insect invertebrates, including beetles, butterflies and moths, dragonflies, grasshoppers, crickets, cicadas, flies, bees, wasps, ants, spiders, millipedes, snails, and slugs. The more than 600 superb color photographs, helpful visual keys, and clear color-coded layout will make this field guide an invaluable resource for nature lovers throughout the region. The book can be purchased through Amazon.com.

Jim Shevock, co-author of the book, *California Mosses* will speak in the Bryophyte session. The new book by Bill and Nancy Malcolm, Jim Shevock, and Dan Norris has just been published. This book has nearly 300 color plates comprising nearly 2,200 images to cover nearly 50 per cent of the mosses in the state. Each genus of moss that occurs in California is represented by a plate, along with most of the species of special conservation concern and the west coast endemic species. For large genera, a suite of representative species plates are provided to display the diversity within that group. Perhaps the most unusual feature of this guide is there are no 'identification dichotomous keys' like in a flora, but rather, identification is determined by a visual process by selecting a shaded leaf outline that matches the moss sample being identified. From this standpoint this moss book functions much like a picture wildflower guide where images are arranged by color, but in this case, mosses are located by selecting different leaf shape outline and other leaf features such as leaf tip, margin, length of the midrib (costa), whether the costa is single, double, or appearing absent, and a suite of other diagnostic characteristics. This book can be used by a plant enthusiast or a trained bryologist. At a minimum, the user in short order should be able to recognize mosses at the genus level and the dominant species occurring across the state. This work can also be used in conjunction with the more technical identification keys published in Madroño 51: 133-269, 2004 where this new work can be consulted when making a choice in a genus or species couplet. The California Native Plant Society (CNPS) will be the distributor of this 430 page hardback book that you can order from the CNPS website at www.cnps.org. The price is \$68.00

Author **Brian Elliott** will attend the Symposium with his book *Handbook of Edible and Poisonous Plant of Western North America*. Elliott describes the edible and poisonous properties of plants in western North America. Designed as a field-going reference, the *Handbook* provides information on edible species, how to prepare them, the habitats they occupy, and their distribution in the west. Toxic look-a-likes are also covered, and a separate section on poisonous plants gives insight on those species to avoid. Although this book is not an identification manual and does not possess line drawings or pictures, it is a thorough review of the literature regarding edible and poisonous plant species of western North America. Designed to fit in your field vest or backpack, the *Handbook* is an ideal companion to your local or regional flora. The *Handbook* may be purchased for \$24.95 plus \$4.95 shipping and handling directly from the publisher at <http://www.eecpublications.com/> and through Amazon.com.

2009 - 2010 STUDENT RESEARCH SCHOLARSHIP AWARDS

This was the second year Northern California Botanists offered research scholarships for students. We have awarded seven \$1000 scholarships for the 2009-2010 academic year.

Each member of the 2009-2010 Student Scholarship Committee individually read all of the 31 excellent and interesting applications that were received by NCB. It was difficult to limit awards to only 7 student applicants, but we are pleased that the winning applicants came from 5 different universities in Northern California.

We congratulate our scholarship recipients and look forward to hearing talks and seeing posters from them at upcoming Northern California Botanists symposia and at other botanical meetings. Members of the Committee (and the Board of Directors) are impressed with the great diversity of botanical projects being done in Northern California by all of the applicants! We also look forward to receiving the next set of applications that will be solicited for the 2010-2011 academic year.

- Rob Schlising, for the 2009-2010 Student Scholarship Committee

The 2009-2010 award recipients, their universities, and the titles of their research projects include:

Erin Gottschalk-Fisher M. S. California State University, Chico
Sacramento Wildlife Refuge Complex vernal pool restoration for *Neostapfia colusana* and *Tuctoria greenei*

Dena Grossenbacher Ph. D. University of California, Davis
A test of pollinator-mediated community assemblage patterns in three California genera: *Limnanthes*, *Mimulus*, and *Clarkia*

Maya Hayden Ph. D. University of California, Berkeley
Abandoned channels as an alternate recruitment pathway for pioneer riparian forest

Jeremiah Mann Ph. D. University of California, Davis
Pre-commercial screening of the leading biofuel crop *Miscanthus X giganteus* for invasive plant traits

Michal Shuldman Ph. D. University of California, Berkeley
Differences in plant functional traits between multiple populations of *Heteromeles arbutifolia*

Jenn Yost Ph. D. University of California, Santa Cruz
Relationships among *Dudleya* species: the role of hybridization and polyploidy in speciation

Johann Zaroli Senior. San Jose State University
Assessing the impact of nutrient enrichment on native and invasive species in California's serpentine grasslands



Photo by Robert Fisher

CAN YOU IDENTIFY THIS PLANT?

Can you identify this perennial subshrub that is prostrate to erect, 1-10 dm tall? The wings on the flower are densely puberulent and the upper sepal is generally acute to acuminate.

It is found in the chaparral and pine forests from 110-2100 m in the Klamath Range, Cascade Range, and the Sierra Nevada.

Answer on Page 4.

REROURED TRAIL COULD THREATEN RARE WILDFLOWER

The following article is a reprint of an article by Dylan Darling that appeared in the Redding Searchlight on Sept. 21, 2009.

The Sierra Club Foundation's rerouting of Mt. Shasta's most popular climbing trail has sprouted concerns about its effect on a scarce wildflower. "They decided to move it through a wetland that has a rare plant in it," said Julie Kierstead Nelson, a Redding botanist with 30 years' experience studying plants. "I would expect higher environmental stewardship from the Sierra Club." A delicate purple flower, the Wilkin's harebell, is found in about 20 spots, all either on Mt. Shasta or in the high Trinity Alps. When the Sierra Club Foundation's Horse Camp Committee rebuilt part of the trail leading to Avalanche Gulch last summer, Nelson said it put the trail through one of these sites.

While acknowledging that the trail passes through Wilkin's harebell growing grounds, Chris Marrone, chairman of the Mt. Shasta Horse Camp Committee, said it's an improvement from the old scat-



Wilkin's harebell

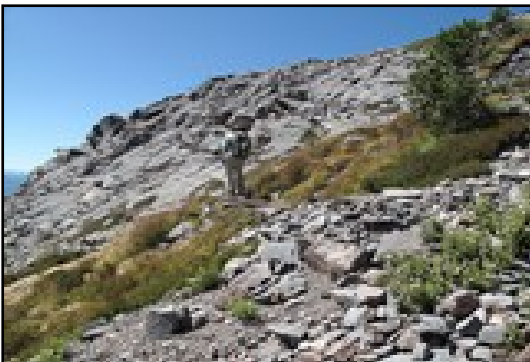
tered trails that it replaced. The old trail had a steep stretch, and climbers and hikers blazed a number of new trails, trampling over the wildflowers in the process. "Our goal was to improve the safety of this route for the public and, at the same time, minimize and protect the damage to this plant by consolidating all the trails into one single alignment," Marrone wrote in a letter to the Record Searchlight. The Sierra Club Foundation is a public charity that provides financial support for the Sierra Club, the environmental group, and other conservation organizations.

Its Horse Camp Committee oversees the upkeep of the Shasta Alpine Lodge at Horse Camp, a stonework building built by club

members in the early 1920s for hikers and climbers on Mt. Shasta, Marrone said. It also manages the 720 acres owned by the foundation that surround the climbing hut, including Olberman's Causeway - a mile-long string of flat rock put in place by Mac Olberman, the hut's first caretaker. The new stretch of trail splinters off from the causeway about two miles from the Bunny Flat trailhead on the highway leading up the mountain from Mount Shasta.

Maronne said the committee consulted with a half-dozen trail designers before putting in the trail and doesn't have any plans to move it. "We've kept the trail where it is for a lot of reasons," he said. But Nelson and others said the trail didn't need to go through the small, fragile wetland. "It seems like it would have been easy to go around," Nelson said. Nelson outlined her concerns in a letter that she sent to the Sierra Club Foundation earlier this summer.

While not listed for federal protection as endangered, the Wilkin's harebell is considered a sensitive species, said Eric White, who has helped climbers on Mt. Shasta for 12 years. White said there were other routes where the new trail could have been built. The wetland is about the size of a bedroom, he said. The new trail has cut through the wetland, he said, causing its lower half to dry out and killing clusters of the Wilkin's harebell. "It's a tiny little flower and (the committee members) didn't seem to think that it was that big a deal," he said.



Jeff Greenhouse, a collection research specialist at the University of California at Berkeley, walks along the trail leading to Avalanche Gulch on Mt. Shasta

LETTER WRITTEN BY NCB MEMBER TO SIERRA CLUB PRESIDENT

NCB Member and professional botanist **Julie Kierstead Nelson** wrote the following letter to the Sierra Club president Ms. Allison Chin concerning an alpine wetland and a population of the rare Wilkins' harebell. If you wish to become involved with this issue, please direct your comments to Allison Chin, President of the Sierra Club or Peter Martin, President of the Sierra Club Foundation both at 85 Second Street, 2nd Floor, San Francisco, CA 94105.

Dear Ms. Chin:

I am baffled and disappointed by the decision of the Sierra Club Foundation's Horse Camp Committee (HCC) to build a trail through an alpine wetland and globally imperiled wildflower population on Mt. Shasta. When I first learned the trail had been built in summer of 2008, I thought there must be some mistake; that the HCC didn't know that Wilkins' harebell, the rare plant, was present on the site—why would a premier conservation group do such a thing intentionally? However, conversations with Foundation staff and their local HCC volunteers made it clear that the trail was built with full knowledge of the damage inflicted to the environment. The purpose of the new route was to make the trail safer for climbers; the easiest reroute was through the wetland, and the fact that rare plants were in the way was just too bad. The Foundation owns an entire square mile of land in the Mt. Shasta Wilderness Area—surely in all that real estate there is another trail route that is both safe and environmentally benign.

A Foundation staff member in San Francisco told me they prefer to leave management decisions to their local committee, and they would consider rerouting the trail only if someone else came up with money and labor to do the work. I was surprised that this staff person showed no concern about the damage caused to the tiny spring-fed wetland or the rare plant by their volunteers' actions.

It is time for the Horse Camp Committee--and their parent organization, the Sierra Club Foundation--to model good conservation leadership, and find a better trail route. The wetland is already noticeably dried out below the trail cut. Get a better trail built and the wetland restored before snow flies this fall. It's not too late to fix this lapse in judgment and environmental stewardship, although it may take some time for the alpine wetland and the Wilkins' harebell to recover. For more information on Wilkins' harebell, which is known from fewer than twenty sites, all of them on Mt. Shasta or the high Trinity Alps, visit <http://www.natureserve.org/explorer/> and type 'Wilkins harebell' in the Species Quick Search box. I've attached a page of photos to help you visualize the scene.

NATIONAL BOTANIST'S DAY CELEBRATED IN NORTHERN CALIFORNIA

Botanists from the US Forest Service and the Northern California Botanists lead representatives of the California Native Plant Society, California State University-Chico, U.S. Fish and Wildlife Service, and temporary summer Forest Service personnel on three tours in May and June, 2009, to celebrate the unique habitats and plants of north central California. These were all conducted in celebration of the second National Botanist Day, May 23, 2009.

Chris Christofferson, Feather River Ranger District Botanist, lead a group through a mixed conifer forest and a newly discovered serpentine outcrop on May 21 in an area which experienced high intensity crown fires in 2008 near Concow, CA. Future resource management of the area was discussed with the tour terminating in a stand of rare McNab Cypress. Cones recently opened from the fire and inch-tall, newly germinated McNab cypress were observed along with extensive emergence of geo-phytes and foothill poppies along the three mile dozer line used to access the area.

Jim (retired from California Dept. of Fish and Game) and **Julie Nelson** (Forest Botanist for the Shasta-Trinity National Forest) with the Shasta Chapter of the California Native Plant Society (CNPS) lead a CNPS field trip to the Waters Gulch trail at Lake Shasta on May 23. About twelve CNPS-ers joined the fieldtrip. Even though the Shasta snow wreath (*Neviusia cliffonii*) had finished blooming, the group was still able to view the shrub itself, along with a great show of firecracker brodiaea at the trailhead. Other bloomers included Indian pink, wild ginger, and snowdrop bush. There were many different ferns on the hillsides above the shady trail with its canopy of pines, black oak, interior live oak and big leaf maple.

The third tour, lead by **Susan Erwin**, Westside Botanist for the Shasta Trinity National Forest, was conducted to Saddle Gulch fen near Wildwood on June 4. This fen is situated within an undisturbed woodland. Several rare serpentine endemics were observed along the obscure trail with lunch at the fen. The fen itself featured California lady's-slipper (*Cypripedium californicum*) at its center as its star attractant. The summer Forest Service botanists and experienced professionals had numerous opportunities to test their skills at keying and identification of the flora of the rare and unique environment of this serpentine forest.



NORTHERN CALIFORNIA
BOTANISTS

c/o Chico State Herbarium
California State University Chico
Chico, CA 95929-0545

NCB 2010 SYMPOSIUM
@ CSU CHICO
JANUARY 11-13, 2010

REGISTRATION
OPENS SOON
WWW.NORCALBOTANISTS.ORG

Web Address Change

NCB is changing their web address to
www.norcalbotanists.org.

Until it is functional, please use

www.csuchico.edu/biol/herb/norcalbot/index.htm

MEMBERSHIP APPLICATION

Name: _____

Affiliation: _____

Address: _____

City: _____ State: _____ Zip: _____

Email: _____ Phone (optional) _____

MEMBERSHIP DUES:

_____ Individual \$25.00 _____ Student \$15.00

_____ Organization \$40.00

In addition, I would like to donate \$_____ to Northern California Botanists
to help fund NCB programs and student research scholarships.

Make checks payable to "Northern California Botanists" and mail to:

Northern California Botanists
c/o Chico State Herbarium
California State University, Chico
Chico, CA 95929-0545

NCB is a federally recognized 501 (c) (3) non-profit organization.

Welcome **NEW MEMBERS!**

Karen Callahan, Grass Valley
Andrea Craig, Los Molinos
Zoya Akulova-Barlow, El Cerrito
Rachel Brush, Berkeley
Clare Golec, Arcata
Rhiannon Korhummel, Westport

Web Address Change

NCB is changing their web address to
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E-mail: ncbotanists@gmail.com

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WWW.NORCALBOTANISTS.ORG