



Bulletin

of the

Native Plant Society of Oregon

Dedicated to the enjoyment, conservation and study of Oregon's native plants and habitats

VOLUME 44, No. 8

OCTOBER 2011

Phenology Matters

NPSO members can assist scientists in determining the influence of global climate change on plant life cycle events.

Gail A. Baker, Science Division, Lane Community College

Knowledge about PHENOLOGY, the periodic and recurring events in organisms' life cycles, has always been critical for human survival. Plant growth, flowering, fruit ripening, animal migration and egg-laying times signaled food availability, determined hunting and collecting patterns, and later agricultural practices. Because organisms' life cycle events are influenced by climate cues, phenology data sets have been used increasingly to provide solid evidence about human-caused global climate change (Beaubien and Hamann 2011). A testament to the economic importance of food production and the value of long-term data is use of the grape-harvest dates, recorded from Burgundy France, to reconstruct spring-summer temperatures from 1370 to 2003 to establish climate changes (Chuine et al. 2004).

Indigenous people recognize both phenological progression and synchronization of biological events as indicators of resources (Lantz and Turner 2003). For example correspondence between the ripening of the salmonberries (*Rubus spectabilis*) and the return of adult sockeye salmon (*Oncorhynchus nerka*) to freshwater was important to the Nuu-Chah-Nulth peoples of Vancouver Island, Canada (Bouchard and Kennedy 1990). But research has shown that climate change often affects organisms independently leading to desynchronization of life-cycle events, altering important ecosystem

interactions, especially between plants and their pollinators (Bertin 2008). Phenological data may also indicate how invasive plants become successful in an ecosystem when these plants grow and flower earlier and confiscate resources from native plants (Wolkovich and Cleland 2011). All these and more are good reasons to consider being part of that very long chain of humans that have been recording phenology and jump in as a Citizen Scientist (http://en.wikipedia.org/wiki/Citizen_science, [http://www.nytimes.com/cwire/2009/06/23/23climatewire-climate-changing-uncle-sam-wants-your-observ-64119.html](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2010_06_25/caredit.a1000065))

Scientists are setting up ways for the general public, Citizen Scientists, to collaborate in phenological data collection. These observations are so important and valued that a mobile phone-based applications and a game called Floracaching is being developed (Han 2011). As plant enthusiasts, we can make major contributions! You don't have to be a professional or even an amateur scientist. Internet sites instruct interested individuals about observing, monitoring and recording phenological data. There are a variety of sites to choose from, and they are not restricted to plant phenology, although those are the ones I am listing here. Close to home we have the Portland

based Budwatch Project, <http://www.ecoplexity.org/node/920>, (Steele 2010).

Gardeners may be interested in the NOAA-sponsored partnership with American Public Gardens Association, http://www.noaanews.noaa.gov/stories2011/20110624_publicgarden.html or the North American Lilac Phenology Data, <http://gcmd.nasa.gov/records/>
continued on page 8

In This Issue

2012 NPAW Poster Contest . 2
NPSO Calendar 3
Other Events 5
Highlights of the NPSO State Board Meeting, June 26..... 5
Long Time NPSO Members at the 2011 Annual Meeting ... 6
In Memoriam: Russ Jolley ... 6
2011 NPSO Annual Meeting Tote Bags Still Available 6
From Salmonberry to Sagebrush 7
NPSO Items for Sale 7
NPSO Contacts 9
Friends of OFP 10



Native Plant Society of Oregon

World Wide Web

<http://www.NPSOregon.org>

E-mail Discussion List

To join, send a message to majordomo@tardigrade.net, with the following in the body of the message: subscribe nps0

General Business Address

P.O. Box 902
Eugene, OR 97440
or correspond directly with Officers and Committee Chairs listed on the inside of the back page.

Membership Inquiries Only

Clayton Gautier
3927 Shasta View St.
Eugene, OR 97405-4442

Bulletin of the Native Plant Society of Oregon

Editor: Taya MacLean
Layout Artist: Jocelyn Duffy

ISSN 0884-599. Published 10 times per year. Subscription price \$18/year. Date and issue number on page 1.

The submission date is the 10th of each month for the following month's issue except for the Aug/Sept issue which is July 24 and the Dec/Jan issue which is November 24. Send submissions by e-mail to bulletin@NPSOregon.org.

Opinions expressed in this publication are those of the authors of the articles. They do not represent the opinions of the Native Plant Society of Oregon, unless so stated.

Take Your Best Shot: 2012 Native Plant Appreciation Week Poster Contest

Summer's over... but remember all those great photos you took of native plants in Oregon this spring and summer? Now that you're probably spending more time indoors, you could take this opportunity to select the best of your photos and submit them for the Native Plant Appreciation Week Poster Contest. Entries must be submitted online on the NPSO Photo Gallery (<http://npsoregon.org/photos/v/2012npaw/>) in the album titled "2012 NPAW Photo Contest." Each person may enter two photos of Oregon native plants (photographed in Oregon with photographer name, species or other description, family, common name, location, and date). All entries must be received by December 15, 2011 (an earlier deadline than last year). Photos will be rated on artistic presentation, appropriateness to the theme, and technical excellence. Complete details can be found at: <http://npsoregon.org/photocontest.html>. If you have any questions, please e-mail Judi Sanders, judi.sanders@gmail.com.

Join the Native Plant Appreciation Week Committee

The Native Plant Appreciation Week Committee is looking for new members to help promote Native Plant Appreciation Week! The purpose of the committee is to promote activities for Native Plant Appreciation Week. To join, please email Judi Sanders, judi.sanders@gmail.com.



A Milbert's tortoiseshell (Aglais milberti) nectaring on hairy arnica (Arnica mollis) near the top of Steens Mt. on Sept. 2 this year. Both the plant and the insect were abundant in this unusually late year.

NORM JENSEN

State

October 22, Saturday, 10 am–2 pm

State Board Meeting. The next NPSO State Board meeting will be held in the Carnegie Room at the McMinnville Public Library. All are welcome to attend. If you have questions or items you would like to have on the agenda, please forward them to Judi Sanders at president@npsoregon.org.

July 13–15, 2012

2012 NPSO Annual Meeting. Save the date! The 2012 NPSO Annual Meeting will be hosted by the Siskiyou Chapter at the Siskiyou Field Institute's Deer Creek Center, Selma, Oregon.

Blue Mountain

For information on Blue Mountain Chapter call Jerry Baker, 541-566-2244.

At the moment, Blue Mountain chapter is still dormant, but we hope to start chapter activities in the Fall. For additional information, contact Jerry Baker at 541-566-2244.

Cheahmill

For more information, visit the chapter Web site, www.oregon-nativeplants.com. To be added to the e-mail list for upcoming programs and events, please contact cheahmillchapternpsocomcast.net.

October 27, Thursday, 7–8:45 pm

Talk: Unique Flora of the Siskiyou Mountains. Rare plants, carnivorous plants and fragrant blossoms! Dr. Karen Sturgeon, former biology professor at Linfield College, will feature photos of the unique plants and plant communities found on serpentine soils in the Siskiyou Mountains. She'll discuss how the soils form and the unusual characteristics typical of plants that grow in these challenging environments. Location: McMinnville Public Library, Carnegie Rm. 225 NW Adams St. (Hwy. 99 and Second St.), Information: 503-472-1868, plstudeb@msn.com.

Corvallis

For information on upcoming events, or to be on the Corvallis chapter e-mail list, contact Esther McEvoy at co_president@NPSOregon.org or 541-754-0893.

October 10, Monday, 7 pm

Talk: Are native plants imperiled by an introduced insect? Kimberley

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. **BRING WATER AND LUNCH.** Trips may be strenuous and/or hazardous. Participation is at your own risk. Be prepared to sign a release form indicating this. For a sample copy check out the NPSO website. Please contact the trip leader or chapter representative about difficulty, distance, and terrain to be expected on field trips. Dogs are not allowed. All NPSO field trips are open to the public at no charge (other than contribution to carpool driver) and newcomers and visitors are always welcome. You must pre-register for all events. National Forests require a Northwest Forest Pass for some field trip locations. Permits can be acquired at forest headquarters and ranger districts.

NOTICE TO FIELD TRIP CHAIRS AND LEADERS

The Forest Service and other agencies have set policies limiting group size in many wilderness areas to 12. The reason is to limit human impacts on these fragile areas. Groups using wilderness areas should be no larger than 12.

M. Higgs and Peter B. McEvoy from the Botany and Plant Pathology Department at Oregon State University will discuss the 1960 introduction of the cinnabar moth, *Tyria jacobaea*, to Oregon for control of tansy ragwort, *Jacobaea vulgaris*. This introduction led to colonization of a non-target host, *Senecio triangularis*, a native of western North America. Their 2009–2010 observational study found no detectable effect of defoliation level (0–100%) caused by the cinnabar moth larvae on rates of plant growth (changes in number, length and thickness of stems) or reproduction (change in number of seed heads) for a population of *S. triangularis* in the wilderness of the Cascade Mountains. For more information, contact Esther McEvoy at 541-754-0893.

October 15, Saturday, 1–3pm

Avery Garden Work Party. Come and help prune and clean up the Avery house native plant garden. Bring gloves, raingear and a snack to share. For more information contact Esther at 541-754-0893.

November 5, Saturday, 8 am

Field Trip: Mushroom Hike. Dan Luoma will lead experienced and novice mushroom hunters on a hike—itinerary to be determined by the weather and fungus availability—to identify and gather the succulent fungi. This will be an all-day outing, so please bring rain gear, a basket, waxed paper or bags, and lunch, water, etc. Meet at the OSU parking lot southwest of The Beanery, 26th and Monroe a bit before 8 am. For more information, call Dan at 541-752-8860.

Emerald

Visit the Emerald Chapter Web site at <http://emerald.npsoregon.org> to learn more about the latest chapter events, plant lists and botanical information about Lane County plants and those who love them.

October 17, Monday, 7:30 pm

Meeting: A Tale of Two Sidalceas

—**The Biology and Recovery of Nelson's and Henderson's Checkermallow.** What do Nelson's checkermallow, a Willamette Valley species, and Henderson's checkermallow, a coastal-estuary species, have in common? Besides sharing 'wet feet' and a very usual mating system, these are two of the most imperiled checkermallow species in Oregon. Melanie Gisler, from the Institute of Applied Ecology, will reveal the intricate biology of these 2 species of *Sidalcea* and describe how grassroots and large-scale recovery efforts are bringing them back. Location: EWEB Training Room, 500 E. 4th Ave., Eugene.

November 21, Monday, 7:30 pm

Meeting: History of the Oregon Flora Project. Dr. Stephen Meyers, taxonomic director of the Oregon Flora Project, presents a short history of the Project, including events and details that some of us are not aware of, and a summary of current work being accomplished. He will also discuss future plans, with an emphasis on the online presence and the upcoming book *The Flora of Oregon*. Location: EWEB Training Room, 500 E. 4th Ave., Eugene.

December 19, Monday, 7:30 pm

Event: Holiday Social and Slide Show. Bring 10 to 12 slides (traditional or digital) and a snack to share if you wish. Location: EWEB Training Room, 500 E. 4th Ave., Eugene. For information call 541-345-5531.

High Desert

The High Desert chapter is inactive at this time. If you are interested in participating in organizing chapter events, please contact membership@nps.org.

Klamath Basin

For information on the Klamath Basin Chapter, contact Sarah Malaby at 541-884-5703 or smalaby@cs.com.

Mid-Columbia

For information on the Mid-Columbia Chapter, contact Sara Wu at wusara96@yahoo.com.

October 13, Thursday, 7 pm

Meeting: Revegetation at Lyle Falls and Northwestern Lake. Jeanette Burkhardt, Watershed Planner for the Yakama Nation fisheries program, will share information about two local revegetation projects. One, on the bank of the Klickitat River, is necessitated by modifications to the fishway at Lyle Falls. The site poses a number of challenges to the multi-step restoration project, including a lack of topsoil. The second, at what is now Northwestern Lake, will involve the restoration of areas along the White Salmon River exposed by the destruction of Condit Dam. This and other activities in the Schoolyard Habitat program involve collaboration between, among others, the US Fish and Wildlife Service, Underwood Conservation District, Jewett Creek Streamkeepers and the Yakama/Klickitat Fisheries Project. Location: Boardroom, Building 1, Columbia Gorge Community College, The Dalles.

North Coast

For information on the North Coast Chapter call Janet Stahl at 503-842-8708.

Portland

If you would like to receive the chapter's semi-official e-mail newsletter, The Calochortus, e-mail Don Jacobson at donjphoto@gmail.com.

*Please note that starting January 12, 2012, the Portland chapter's program meetings will be held at the **Metro Council Building, 600 NE Grand Ave, Portland.** Join us at the Mt. Tabor Presbyterian Church through December and at the Metro building starting January.

October 13, Thursday, 7 pm

Talk: The Restoration of Elk Rock Island: What it is, and how to do it. Join Mary Bushman for a talk about Elk Rock Island, an island within the Willamette River which represents part of an ancient volcano that erupted about 40 million years ago. The large, jagged rocks (Waverly Heights basalt)

found throughout the island were formed by lava flows and may be the oldest exposed rock in the Portland area. The island contains seven distinct habitats, including wetlands, forests and grasslands. Location: Mount Tabor Presbyterian Church, 5441 SE Belmont Street, Portland, OR. Information: Billy Don at 503-515-1708.

Siskiyou

The Siskiyou chapter e-mails meeting reminders and last-minute information such as field trip cancellations. To be added to the list, please send your e-mail address to Kristi Mergenthaler at coprolitemergie@yahoo.com.

October 20, Thursday, 7:30 pm

Program: To be announced. Watch for your October member e-mail for details.

November 17, Thursday, 7:15 pm

Program: Wildflower Odyssey. Kenneth DeCamp will show his movie—a photographic journey through the mountains of Northern California and Southern Oregon. Location: Southern Oregon University, Science Bldg., RM 171. Refreshments at 7:15 pm, meeting and program at 7:30. Contact: Kristi at 541-941-3744.

Field Trips: We are planning October/November field trips, including a fall fungi hike(s). Watch for your October member e-mail for details.

Umpqua Valley

Visit www.umpquavalley.npsoregon.org for more information on chapter activities.

Willamette Valley

For program information, contact John Savage at 503-399-8615 or Alexandra Ninneman at 503-391-4145.

William Cusick

Visit our Web site at <http://williamcusick.npsoregon.org> or contact Laurie Allen at 541-805-0499 for updates and general information.

OTHER EVENTS

Eugene Natural History Society

October 24, Friday, 7:30 pm

Talk: Tropical Dracula Orchid

Adaptations. Get ready for youthful enthusiasm involved in some pretty fascinating research, both in Ecuador and on the UO campus, when Tobias Policha describes how the Dracula orchid, and perhaps other orchids, have adapted to their environment by mimicking small native mushrooms in order to better attract some pollinators. His presentation offers beautiful photography as well. The public is invited free of charge to hear Tobias at the monthly meeting of the Eugene Natural History Society. Location: Room 100, Willamette Hall, UO Campus, 7:30 pm.

Emerald Chapter of the North American Rock Garden Society

October 4, Tuesday, 7 pm

Talk: Fresh Air—The Importance of Letting Alpine Plants Breathe.

Growing alpine plants in our soggy NW climate can be a challenge and success depends on achieving the right balance between air, moisture, soil structure and fertility. Truls Jensen and Emma Elliott of Wild Ginger Farm will share their secrets to successfully growing alpiners in a variety of garden situations including troughs and containers, scree and sand beds, and alpine and rock gardens. They will also have alpine and rock garden plants available for sale. The talk is sponsored by the Emerald Chapter of the North American Rock Garden Society. Location: Eugene Garden Club, 1645 High St. Free and open to the public. Door prizes and refreshments follow. Information: Tanya at 541-937-1401.

Siskiyou Field Institute

Information: Phone 541-597-8530 or visit www.thesfi.org.

October 15–16, Saturday–Sunday

Course: Intermediate Lichens with Daphne Stone, PhD. This class offers an in-depth look into some of the more challenging local lichen genera, including *Usnea*, *Peltigera*, *Melania* and *Bryoria*. Not recommended for beginning lichenologists—you must be familiar with keying lichens with the McCune book and have worked some independently on these genera. Tuition for this class is \$100, scholarships are available and advance registration is required.

November 4–6, Friday–Saturday

Course: Mushrooms! with David Lebo, MS. Learn about the biology, ecology and field identification of both edible and poisonous mushrooms in this perennial favorite SFI class. On Friday, we'll prowl the Illinois Valley for fungi. Saturday, we'll scout for mushrooms on the Six Rivers National Forest and along the Oregon coast. Sunday—more 'shrooming along the northern California coast. Beginners and the fungi-literate are welcome! Tuition is \$130 (lodging not included), scholarships are available and advance registration is required.

November 11, Friday

Course: Edible Mushrooms of Southern Oregon and Northern California with Eric McEwen. Search the woods and learn how to safely identify and collect the edible mushrooms of southern Oregon and northern California. Discover key characteristics for identifying many varieties, including: morels, boletes, oysters, chanterelles and matsutakes. Poisonous mushrooms known to occur in the area will also be reviewed. Use all your senses—and your hiking muscles—as you develop skills to recognize which mushrooms to harvest, and which ones to leave behind. Tuition for this class is \$50, scholarships are available and advance registration is required.

Highlights of the NPSO State Board Meeting, June 26

George and Harriet Shoppert were honored at the Annual Meeting at Lake Creek Camp, Logan Valley, as the attendees having the longest standing NPSO membership (since the early 1970s). Kelli Van Norman is stepping down as the EarthShare liaison and Billy Don Robinson will now be the liaison. David Barts, former NPSO Secretary, had to resign due to an unexpected move out-of-state, so Lisa Blackburn was elected Secretary (unanimously), which necessitated her resignation as a board member-at-large. Kareen Sturgeon was then elected (unanimously) to fill the remainder of Lisa's term. Congratulations to Lisa and Kareen. We wish David well in his move! NPSO would like to generate more income for the Leighton Ho fund (a \$750 grant is given each year from this fund) and an article will likely appear in the *Bulletin* regarding this matter. The William Cusick Chapter is active and usually meets in Baker City or LaGrande. Judy Sanders will check with the Blue Mountain Chapter to ask if they want to be joined with the William Cusick chapter as opposed to becoming inactive. Rhoda Love is retiring from the Fellows Committee and Dave and Jan Dobak will be taking her place. NPSO needs to recruit members for the Rare and Endangered Committee. If anyone is interested in serving on either of these committees, please contact Judi Sanders. Billy Don Robinson gave an update on the *Arundo donax* planting project. It was agreed that each chapter would sign a petition against this project at the next State Board meeting. The Oregon Flora Project is making progress and has many downloadable keys from the website. They want feedback on use of the keys and are also recruiting authors for floristic treatments. Chapters are encouraged to post events and photos on NPSO's Facebook page (www.facebook.com/npsoregon).



In Memoriam: Russ Jolley

Russ Jolley passed away on August 24th, 2011. He was a conservationist who tirelessly advocated for conservation of forests and other natural areas in Washington and Oregon. His book, *Wildflowers of the Columbia Gorge*, published in 1988, still serves as an indispensable field guide for many botanists and naturalists. Russ was a dear friend and colleague to many NPSO members and will be greatly missed.

2011 NPSO Annual Meeting Tote Bags Still Available

The Portland Chapter of NPSO is selling the tote bags that were first available at the annual meeting at Lake Creek Camp near Strawberry Mountain. They are light green with beige trim, height is 17.75", width is 18.75", and depth 5.50". Price is \$15.00. To purchase, send a check made out to Portland Chapter NPSO to:
NPSO, 2921 NE 25th Ave.,
Portland, OR 97212.

Get one before they are gone!



George and Harriet Schoppert: Long Time NPSO Members at the 2011 Annual Meeting

George and Harriet Schoppert were honored for their long-standing membership in NPSO at our Fiftieth Anniversary Annual Meeting. They were among the charter members who founded the Willamette Chapter of NPSO. Harriet recalls how it came about. She met Jean Davis one day in 1970 "... while working up the Little

Fork of the North Santiam River. She had to show me some cabins across the river from their home... we came across some Calypso orchids. That started a very special friendship. We both loved wildflowers..."

Harriet and Jean started weekly wildflower walks, "Our interest grew and contacts with others who loved the wildflowers expanded. That led to the Willamette Chapter formation." After Jean passed away, her husband, Rex Davis, started the Jean Davis Memorial Scholarship Fund, which Harriet managed for many years.

Harriet and George were not only charter members of the Willamette Chapter, but were chapter officers for many years, helping to carry on NPSO's mission of study and conservation. Thank you for your fine contributions to our society, Schopperts!



From Salmonberry to Sagebrush: Exploring Oregon's Native Plants

Botany Bouquet," "The Secret Life of Flowers," and "Survival Quest: A Pollinator Game," are just a few of the interactive lessons in the Institute for Applied Ecology's new high school ecoregional curriculum. The goal of the curriculum is to introduce students to the wondrous biodiversity of flora, and the connections between plants and their ecosystems. It is designed specifically for Oregon's native plants and can be adapted to different ecoregions within the state.

The curriculum's lessons encourage students to study what is outside their door and to gain skills to be informed and active citizens in local natural area issues and decision in their future. All lessons start with a "Teacher Page," which gives background information and essential skills. "Student pages" assist participants in developing their literacy proficiency and becoming active

in service-learning and community projects. Oregon Education Standards correlated to the lessons, recommended botanical field guides for Oregon Ecoregions, schoolyard plant species lists and Oregon ethnobotanical plants and their uses, are found in the appendices.

Jody Einerson, one of the writers of the curriculum, has worked closely with teachers and an advisory council in developing the curriculum. "We are now holding free workshops to introduce educators and interested parties to the lessons and have them actually conduct some of the inquiry-based segments," stated Mrs. Einerson. "We appreciate funding from USDA Bureau of Land Management and National Fish and Wildlife Foundation in making this exciting curriculum possible."

For more information, visit <http://appliedeco.org/ecological-education/native-plants-curriculum>.



NPSO Items for Sale

Booklets on Gardening with Native Plants. Emerald Chapter's three booklets about native plants of the southern Willamette Valley are "Native Herbaceous Plants in Our Gardens," "Native Shrubs in Our Gardens," and "Native Trees in Our Gardens." \$9.35/set of three, mail order. Individual booklets sold from the NGAP booth at Down-To-Earth, or by check made out to "Emerald Chapter NPSO" with "NGAP Gardening Guides" in the memo line to P.O. Box 902, Eugene OR 97440-0902. Also see online in PDF format at www.emeraldnpso.org Click on "Gardening with Native Plants."

Field Guide to Shrubs of Southwest Oregon. An 80-page, pocket-sized field guide identifies 56 of the most frequently-encountered shrubs in SW Oregon and describes each species in detail with words and photos, including habitat, leaves, twigs, fruit, and flowers. Dichotomous keys, illustrations of common plant parts and glossary included. Janet Walker, NPSO Siskiyou chapter member, and Max Bennet, Forestry Agent with Jackson/Josephine Counties. \$7/copy; checks payable to "OSU Extension Service." Mail to Shrub Guide, Jackson County Extension, 569 Hanley Rd., Central Point, OR 97502.

Poseidon's Necklace. Don Begnoche, Siskiyou chapter, has issued an Oregon field guide covering the coastal section, mile by mile, from Astoria to Brookings. Genesis of the coastal landscape and flora found on dunes, headlands and montane slopes; over 500 landscape and floral photographs as well as geologic maps and illustrations. PDF format on a CD. \$19.95 + \$2.50 s/h. Mail checks to Don Begnoche, 439 Herbert St., Ashland, OR 97520

Phenology Matters

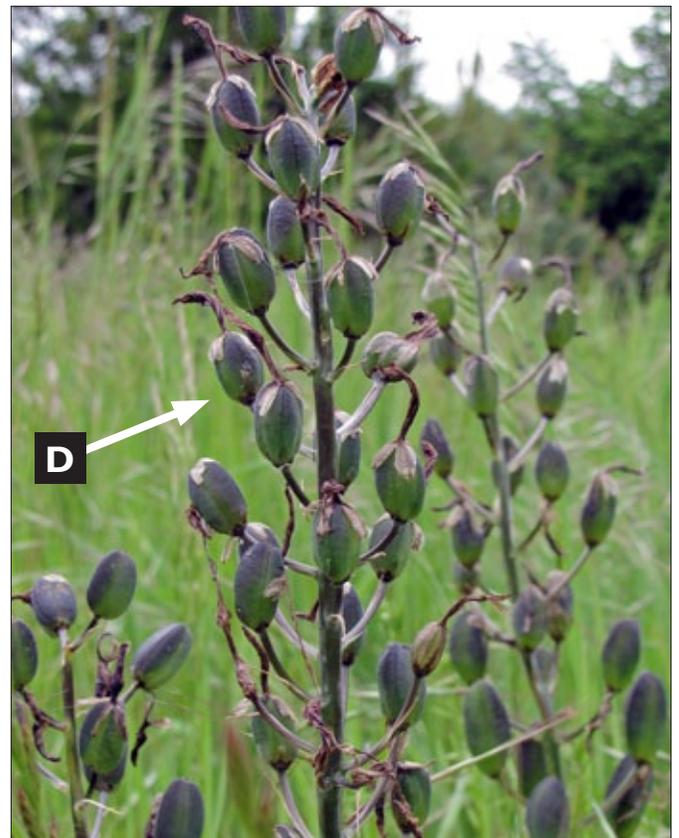
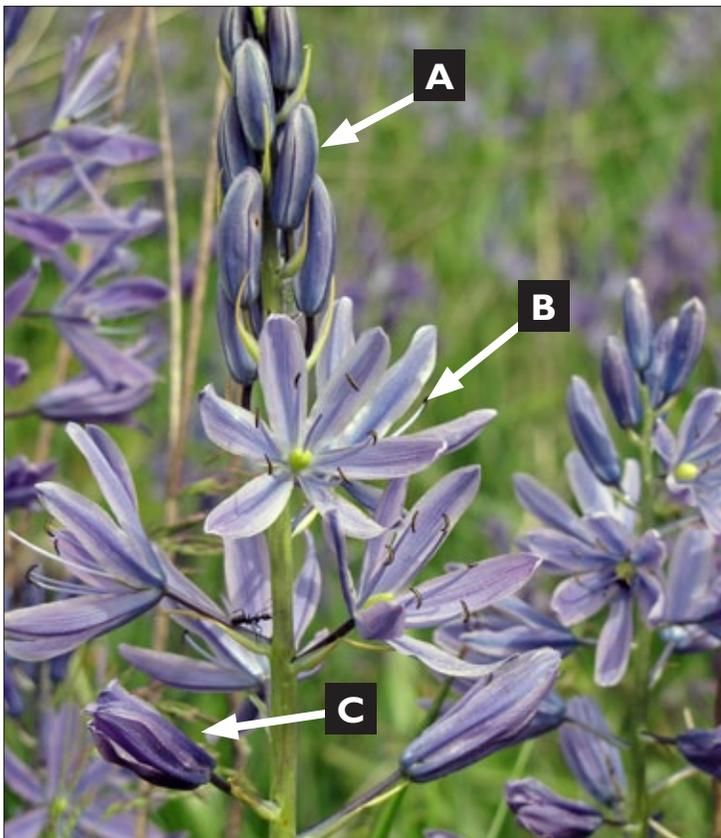
continued from page 1

GCMD_LILAC_PHENOLOGY.html. Those interested in plant-animal interactions should check out Monarch Watch, <http://monarchwatch.org/blog/2008/02/milkweed-and-nectar-plant-phenology-project/>, and Monarch Larva Monitoring Project <http://www.mlmp.org/>. Well established sites with many linked resources include Project BudBurst http://www.neoninc.org/budburst/_About-BudBurst.php and the USA National Phenology Network (NPN) <http://www.usanpn.org/home>. Many of the above sites are embedded in NPN.

Students at Lane Community College have been participating in phenology monitoring of 16 native plants in the landscape surrounding the Science & Math Building (#16) since 2008 (Baker 2009). We will be reporting some of the results of this research in subsequent issues of this *Bulletin*.

Literature References

- Baker, G.A., 2009. Beauties of Native Landscapes: Highlighting Native Plants at Lane Community College. Photo Essay. *Bulletin of the Native Plant Society of Oregon* 42(3): 31
- Beaubien, E. and A. Hamann. 2011. Spring flowering response to climate change between 1936 and 2006 in Alberta, Canada. *BioScience* 61(7): 514-524
- Bertin R. 2008. Plant Phenology And Distribution In Relation To Recent Climate Change. *Journal of the Torrey Botanical Society* 135(1): 126-146
- Bouchard, R. and D. Kennedy. 1990. Clayoquot Sound Indian Land Use. Report Prepared for: MacMillan Bloedel Limited, Fletcher Challenge Canada and British Columbia Ministry of Forests. B.C. Indian Language Project, Victoria, B.C.
- Han, K. 2011. Increasing engagement in participatory sensing. Masters Thesis, Department of Electrical Engineering, University of California, Los Angeles.
- Lantz, T. and N. Turner. 2003. Traditional phenological knowledge of the aboriginal people in British Columbia. *Journal of Ethnobiology* 23(2): 263-286.
- Steele, M. 2010. Introducing Portland Budwatch: PSU grad students form new phenology project. *Bulletin of the Native Plant Society of Oregon* 43(5):1-2
- Wolkovich, E. and E. Cleland. 2011. The phenology of plant invasions: a community ecology perspective. *Frontiers in Ecology and the Environment* 5(9): 287-294



GAIL BAKER

Camassia Phenology Sequence, Lane Community College Native Landscape, May-June 2011

Phenology monitoring includes all events of an organism's life cycle. In plants, such as Camassia leichtlinii, phenophases can overlap. 100% fruit maturation was reached by 5/28/11.

A: flower buds; B: mature flowers; C: senescent flowers; D: 100% maturing fruit on this inflorescence.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____
 Address _____
 City _____ State _____ Zip+4 _____
 Phone _____ E-Mail _____
 Chapter (if known) _____

DUES include monthly *Bulletin* and *Kalmiopsis* when published.
Membership is for the calendar year. New memberships enrolled after July 1 include the following year.

- New Renewal
 Student – \$12 Regular – \$25 Family – \$35
 Sustaining – \$60 Patron – \$125 Life Membership – \$500
 Subscription Only (*Bulletin* and *Kalmiopsis*) – \$25 *Only for those who wish to subscribe, but do not want to have full membership status.*

Is this a change of address? If so, please write your old address here:

Address _____
 City _____ State _____ Zip+4 _____

CONTRIBUTIONS to NPSO are tax deductible.

- | | |
|--|----------|
| Jean Davis Memorial Scholarship Fund | \$ _____ |
| Leighton Ho Memorial Field Botany Award Fund | \$ _____ |
| Augusta Rockefeller Memorial Scholarship | \$ _____ |
| Rare and Endangered Plant Fund | \$ _____ |
| Friends of the Oregon Flora Project | \$ _____ |

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals and changes of address (include old address) should be sent to the Membership Chair. Changes of address may also be e-mailed to Membership@NPSOoregon.org.

Please make checks for dues and contributions payable to:

NATIVE PLANT SOCIETY OF OREGON

Send completed form and full remittance to:
 Clayton Gautier, NPSO Membership Chair
 3927 Shasta View St.
 Eugene, OR 97405-4442

OFFICERS & COMMITTEE CHAIRS

STATE OFFICERS

- DIRECTORS (to 6/2012)..... Esther McEvoy, Lisa Blackburn, Rhoda Love (to 6/2013) Linda Hardison, Frances Stilwell, Bruce Waugh
 PRESIDENT Judi Sanders president@NPSOoregon.org; 541-738-6674
 IMMEDIATE PAST PRESIDENT..... David Lebo past_president@NPSOoregon.org; 503-622-2008
 VICE PRESIDENT Billy Don Robinson bdmeme@gmail.com; 503-515-1708
 SECRETARY..... Lisa Blackburn secretary@NPSOoregon.org; 503-538-3976
 TREASURER..... Cyndi Dion 897 Hillview Dr., Ashland, OR 97520-3517; treasurer@NPSOoregon.org; 541-482-8603

CHAPTER PRESIDENTS

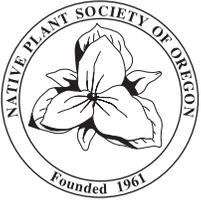
- BLUE MOUNTAIN (Pendleton) ... Jerry Baker P.O. Box 662, Athena, OR 97813; hd_president@NPSOoregon.org; 541-566-2244
 CHEAHMILL Lisa Blackburn ch_president@NPSOoregon.org; 503-538-3976
 CORVALLIS..... Esther McEvoy co_president@NPSOoregon.org; 541-754-0893
 EMERALD (Eugene)..... Brian Basor 78703 Echo Hollow Ln., Cottage Grove, OR, 97424; em_president@NPSOoregon.org; 541-335-1268
 HIGH DESERT (Bend)..... Eileen Obermiller..... hd_president@NPSOoregon.org; 541-350-7436
 KLAMATH BASIN Sarah Malaby kb_president@NPSOoregon.org; 541-884-5703
 MID-COLUMBIA Sara Wu 595 Hearthside Lane, Goldendale, WA 98620; wusara96@yahoo.com; 509-773 7127
 NORTH COAST Janet Stahl..... 9780 Whiskey Creek Rd., Tillamook, OR 97141; nc_president@NPSOoregon.org; 503-842-8708
 PORTLAND Angie Moore po_president@NPSOoregon.org; 503-292-2093
 Roger Brewer roger-brewer@comcast.net; 503-789-5027
 SISKIYOU Frank Callahan si_president@NPSOoregon.org; 541-897-0421
 UMPQUA VALLEY (Roseburg)..... Donna Rawson 4134 Goodrich Hwy, Oakland, OR 97462-9636; uv_president@NPSOoregon.org; 541-459-2821
 WILLAMETTE VALLEY (Salem) John Savage 1645 Church St SE, Salem, OR 97302-2908; wv_president@NPSOoregon.org; 503-399-8615
 WM CUSICK (La Grande) Jenifer Ferriell 2513 Washington Ave., Baker City, OR 97814; jenifer.ferriell@gmail.com; 541-523-5040

STATE COMMITTEE CHAIRS

- BUDGETS AND GRANTS Dan Luoma..... 3740 NW Harrison, Corvallis, OR 97330; 541-752-8860
 CONSERVATION, EAST SIDE..... Duncan Thomas..... 529 N.W. 31st St., Corvallis 97330-5157; duncanwt@gmail.com; 541-752-5211
 CONSERVATION, WEST SIDE..... David Lebo president@NPSOoregon.org; 503-622-3191 ext. 639
 FRIENDS OF OR FLORA PROJECT Linda Hardison..... 2082 Cordley Hall, Corvallis, OR 97331-2902; hardisol@science.oregonstate.edu; 541-737-4338
 LEGISLATIVE Billy Don Robinson bdmeme@gmail.com; 503-515-1708
 MEMBERSHIP..... Clayton Gautier 3927 Shasta View St., Eugene, OR 97405-4442; membership@NPSOoregon.org
 NPSO FELLOWS..... Jan and Dave Dobak..... jddobak@pceez.com; 503-248-9242
 RARE & ENDANGERED PLANTS Vacant

PUBLICATIONS

- BULLETIN EDITOR..... Taya MacLean 7727 N. Woolsey Ave., Portland, OR 97203; bulletin@NPSOoregon.org
 BULLETIN PRODUCTION..... Jocelyn Duffy..... jocelynduffy@yahoo.com
 KALMIOPSIS EDITOR Cindy Roché P.O. Box 808, Talent, OR 97540; kalmiopsis@NPSOoregon.org
 WEBMASTER Norm Jensen webmaster@NPSOoregon.org



Send change of address notices
and membership requests to:
Native Plant Society of Oregon
Clayton Gautier, Membership Chair
3927 Shasta View St.
Eugene, OR 97405-4442

NONPROFIT ORG
US POSTAGE
PAID
EUGENE, OR
PERMIT NO. 204



TIME DATED MAIL



Friends of the Oregon Flora Project

The floristic treatment of the grasses is complete and now available! This significant accomplishment was prepared by Barbara Wilson, Richard Brainerd, and Nick Otting, with contributions in the genus *Poa* by Robert Soreng. Representing nine percent of the flora, the Poaceae treatment also is a valuable stand-alone resource. We hope you will use these keys and descriptions, and let us know how they work for you. As with all our advanced flora drafts, you can find it on our website at <http://oregonflora.org/flora.php>.

www.oregonflora.org

Funding for the preparation of the new Flora of Oregon, as well as all Oregon Flora Project activities, comes exclusively from competitive grants and donations from organizations and individuals. The contributions people give of their time and financial resources are a critical part of our operating budget. If you would like to be a part of the team that keeps the OFP progressing, please contact us at opf flora@oregonflora.org, or phone 541-737-4338.

Contributions can be mailed directly to:

Agricultural Research Foundation, Oregon State University, 100 Strand Ag Hall, Corvallis, OR 97331-2219.

Please make checks payable to the Ag. Research Foundation, and include "Oregon Flora Project—4482" on the memo line.