Summer Intern Report

### The Ecology and Demography of a Rare Woodland Orchid, Cypripedium fasciculatum

By Cara Benfield

The following is the first in a series of three articles in which NPSO/Institute for Applied Ecology (IAE) interns discuss their activities during the 2004 field season. Interns participated in rare plant monitoring, restoration, floristic surveys, and other research projects conducted by IAE staff throughout Oregon during the past summer. In this article, Cara Benfield discusses our efforts in collaboration with the Medford District BLM to evaluate population status and demographic trends in a rare forest-dwelling orchid. For more information on internship opportunities, please contact IAE at kayet@peak.org, 541-753-3099 or visit www.appliedeco.org. Thanks again to NPSO for contributing to botanical education and work experience.

Tom Kaye, Institute for Applied Ecology, Corvallis, Oregon

**VOLUME 37, No. 10** 

# What is known about the rare clustered lady's slipper?

Immediately following my appointment as an NPSO/IAE summer intern, I left civilization behind and entered the forest, joining population monitoring teams led by IAE Botanist Karin Rohland. Cypripedium fasciculatum Kellogg ex S. Watson, commonly known as clustered lady's slipper, is one of three Cypripedium species endemic to western North America. This woodland orchid occurs in small, scattered populations throughout the Cascade Range in Washington and Oregon, extending south to California's Santa Cruz Mountains, and east into the Rocky Mountains of Idaho, Montana, Colorado, Wyoming, and Utah. In Oregon, C. fasciculatum is typically found in association with older, closedcanopy Douglas-fir forests on moist stream terraces or dry rocky slopes, from 330 m to 1745 m elevation. This shady habitat is frequently shared with other understory plants like sword fern, Oregon grape, dogwood, hazel, and poison oak (Seevers and Lang 1998).

Cypripedium fasciculatum is unique

among lady's slipper orchids because of its short stature, two opposite, oblong-elliptic leaves that are sessile to a hairy stem, and a tight cluster of flowers, each subtended by a bract. The down-ward-drooping flowers, which are no bigger than a 50-cent piece, have greenish lanceolate-acuminate petals and sepals that are heavily striped or mottled in purple. They hang loosely over the engorged greenish-yellow labellum, which is marked with brownish-purple strokes at its margin, forming the namesake lady's slipper.

While this species' range does not seem narrowly limited by elevation, soil type, or plant community, *C. fasciculatum* may be locally restricted by specific microhabitat factors. This orchid seems to prefer high canopy shading of 60 to 100% cover (Knecht 1996), and requires a mycorrhizal symbiont for seed germination and survival to an autotrophic state (Whitridge pers. comm.) It may need a duff layer to provide protection and moisture for its shallow rhizome. Finally, *C. fasciculatum* appears to be altogether intolerant of high intensity fire, and in some cases may

not survive even low-intensity blazes.

Human activities may affect or alter the biotic and environmental conditions that *C. fasciculatum* requires for survival, growth, and development. Because *C. fasciculatum* rhizomes are shallow (3-12 cm deep), physical

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## **Native Plant Society of Oregon**

#### World Wide Web

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#### Membership Inquiries Only

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

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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.

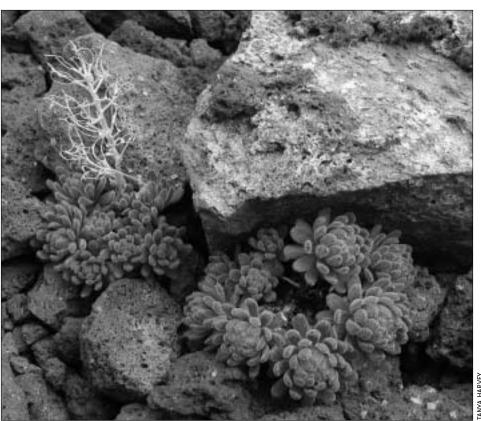
### **Grant Proposals** Requested

**¬**he Native Plant Society of Oregon ■ will continue to sponsor small field research grants. The objectives of the program are: 1) to stimulate basic field research into the biology and distribution of Oregon's native and naturalized flora and vegetation, particularly in the more remote areas of the state, and 2) to promote native plant conservation through better understanding of Oregon's flora and vegetation and the factors affecting their survival.

Persons interested in applying for funding can obtain a copy of the program policy and guidelines from Dan Luoma, Field Research Grants Committee Chair, 3740 NW Harrison Ave... Corvallis, OR 97330. The material may also be obtained at NPSO's World Wide Web site, http://www.npsoregon.org/comm/FRGC.htm. Research proposals are due by March 1, 2005.

### **Great Opportunity** to Serve NPSO!

**D** o you love NPSO? Do you live or work near the Portland area? NPSO is looking for someone to serve as our NPSO representative at Earth-Share. What is EarthShare? EarthShare is a federation of leading non-profit environmental and conservation organizations that work to promote environmental education and charitable giving through workplace giving campaigns. NPSO receives a large proportion of its annual income from EarthShare. We need a representative that will attend EarthShare meetings (in Portland) every month. For more information about this opportunity, please contact Shane Latimer at slatimer@jsanet.com.



Draba aureola is a rare plant of high alpine volcanic areas. Its low stature and pubescent hairs help protect it from the harsh conditions of this habitat. While these lovely rosettes are similar to those of plants in many families, the remains of the seed pods give this away as a member of the mustard family (Brassicaceae).

### **NPSO CALENDAR**

### **State**

January 22, 2005, Saturday

**Board Meeting:** The Cheahmill chapter will host the winter board meeting which will be held from 10:00 am to 2:00 pm at the McMinnville Library, 225 NW Adams St., McMinnville.

#### **Blue Mountain**

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

### Cheahmill

November 18, Thursday, 7:00 pm Meeting: Oregon Flora Project Update. Linda Hardison, Chairperson of the Friends of the Oregon Flora Project, will talk about the goals encompassed by the Project; the progress that has been made toward those goals; and how the data collected for the project can be used by a variety of users. Carnegie Room, McMinnville Library, 225 NW Adams St., McMinnville. For more information contact Susan Williams at helgesusan@comcast.net or 503-538-1865.

November 20, Saturday, 9:00 am Field Trip: Mushroom Walk. Dr. Jack Murphy of Linfield College will lead a mushroom walk at Charles Metsker Park, just northwest of McMinnville. This is a rain-or-shine, family-friendly event. Children are welcome. No registration required. Meet at the Linfield Ave. entrance to Murdock Hall on the Linfield campus in McMinnville before the 9:00 am departure time. Participants will collect fungi at the park and join in an informal identification session under cover at about noon. Bring a picnic basket and waxed paper for your mushrooms. For more info contact Susan Williams at 503-538-1865 or e-mail helgesusan@ comcast.net.

### **Corvallis**

November 7, Sunday, 1:00 pm Workshop: Propagating Perennials and Shrubs. Loren Russell and Esther McEvoy will lead a propagation workshop at Willamette Gardens, 3290 SW Willamette Avenue, Corvallis from 1:00 - 3:30 pm. Bring gloves, a trowel, clippers and any gallon pots you might have around the house. There will be plenty of native cuttings to take home and grow. Contact Esther McEvoy at 541-754-0893 to register.

## IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. 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. Bring water and lunch. 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. National Forests require a Northwest Forest Pass for many 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.

#### November 8, Monday, 7:30 pm Meeting: Symbioses of Mushrooms and Truffles with Vascular Plants.

Dr. Dan Luoma will be presenting his research into interactions between kingdoms. This will get us all into the proper fungal frame of mind for Dan's field trip the following weekend. For any information contact John Syring at 541-752-0414.

November 14, Sunday, 8:00 am Field Trip: Mushrooming to Cascade Head and Vicinity. Ride out to the coast for a trip led by Dan Luoma during one of the best fungal years in recent history. Corvallis area folks meet at the OSU parking lot SW of the Beanery, 26th and Monroe, Corvallis, at 8:00 am. This will be an all day event. For more information contact Dan Luoma at 541-752-8860.

**December 4, Saturday, 9:00 am Workshop Series: The Ferns of Oregon and beyond with Dr. Dave Wagner.** Please bring dissecting equipment, and copies of Hitchcock & Cronquist and the Jepson manual. Due to physical limitations, class size will be limited to 20 people and participants will be required to have current NPSO memberships (new memberships encouraged). Workshops will be held in 1070 Cordley Hall, OSU campus, enter through northwest door by herbarium. Register in advance by contacting John Syring at 541-752-0414.

### **Emerald**

November 22, Monday, 7:30 pm Meeting: Mysteries of the Monotropoideae Revisited—20 Years of Demystification. Dan Luoma (Assistant Professor, Senior Research in the Department of Forest Science at Oregon State University) will introduce us to the Monotropoideae, a subfamily within the Ericaceae (Heath family). Members of this subfamily lack chlorophyll and are dependent on

fungi for their nutrition. Dan will integrate wildflower and mushroom natural history through discussion of nutritional and physical symbioses in the Monotropoideae. He will also summarize recent literature on the genetic relationships of Monotropoideae species. Forum Building, Room 308, Lane Community College, 4000 30th Avenue East, Eugene.

### **High Desert**

For information on the High Desert Chapter contact Reid Schuller at 541-317-1901.

### Klamath Basin

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

### Mid-Columbia

November 3, Wednesday, 7:30 pm Meeting: Invasive Plants of our Region. Updates from Oregon vegetation management conference. Identification of our problem weeds. Jerry Igo speaker. The *Dalles Chronical* Meeting Room, 317 E. 3rd Street, The Dalles.

December 1, Wednesday, 7:30 pm Meeting: Rare Plants of our Area. Identification of sensitive listed or endemic species in the Mid-Columbia area. Jerry & Michael Igo speakers. The Dalles Chronical Meeting Room, 317 E. 3rd Street, The Dalles.

### **North Coast**

For information on the North Coast Chapter, contact Janet Stahl at 503-842-8708 or jjs@oregoncoast.com.

### **Portland**

November 9, Tuesday, 7:00 pm Meeting: Native Landscapes at Jackson Bottom Wetlands Preserve. Join Jan Curry from Jackson Bottom Wetlands Preserve for an interactive presentation regarding the development of native landscapes at the new Wetlands Education Center in Hillsboro. Assist in giving feedback regarding basic interpretive signs that have been developed for the gardens. Help the signage evolve! Use your knowledge to give ideas about native plants that could be included in demonstration gardens such as the reptile garden, pollinator garden, sensory trail, stormwater creek model, vegetated bioswales, arboretum, home landscaping, and bulb garden. Now that should keep us busy! Classroom #134, First United Methodist Church, 1938 SW Jefferson St., Portland. Please note that we are meeting in a **new room!** For more info, contact Jan Curry at 503-681-6283 or janc@ci.hillsboro.or.us.

November 20, Saturday, 9:00 am Work Party: Remove Ivy from TNC's Camassia Natural Area. The Nature Conservancy's Camassia Natural Area is named for the common camas—historically a highly-valued food source of Pacific Northwest Native Americans which blooms profusely in April and early May. More than 300 plant species are found on the preserve, including some rare Willamette Valley species. The rare white rock larkspur occurs here and at only six other places in the world. The shallow soils of this rocky plateau support wet meadows, Oregon white oak-madrone woodlands, vernal and permanent ponds, and even a stand of quaking aspen. Come and help remove the invasive English ivy from this unique natural area! Please contact Susan Hawes at 503-230-1221 or shawes@tnc.org if you would like to come. Carpools may be organized.

### Siskiyou

November 18, Thursday, 7:30 pm Meeting: What Are the Potential Impacts of Future Climate Change on Vegetation in the Pacific Northwest? Dr. Sarah Shafer, from the USGS Earth Surface Processes Team, will summarize some of the projections of future climate changes for the Pacific Northwest. She'll discuss potential effects these

changes may have on vegetation and on conservation and natural resource management activities in the region. Room 171, SOU Science Building, Ashland. For more info, contact Cynthia Maclaren, 541-482-0899.

### **Umpqua Valley**

November 11, Thursday, 7:00 pm Meeting: Vernal Pool Plants of Jackson County. Chapter member Sam Friedman who works for the Oregon Fish & Wildlife Service will give a PowerPoint presentation on vernal pool plants and fairy shrimp along with his recovery plan for endangered species of the large-flowered woolly meadowfoam and Cook's desert parsley. Mercy Education Center, 2459 Stewart Parkway, Roseburg. For more information contact Ron Hatt, at hattr@citlink.net or 541-863-7024.



Four species of ferns cavort under a rock on Tire Mountain in Lane County: Aspidotis densa, Polypodium hesperium, Cystopteris fragilis and Pentagramma triangularis.

### Willamette Valley

November 16, Tuesday, 7:00 pm Meeting: Lewis and Clark's Flora Discoveries. Oregon naturalist Jerry Igo will discuss wild flowers and other native plants discovered by Lewis and Clark during their westward expedition. The program, co-sponsored by The Friends of the Straub Environmental Learning Center and the Willamette Chapter of NPSO, will be held from 7:00 to 8:30 pm at the Unitarian Universalist Church, 5090 Center St. NE, Salem. Igo serves as the NPSO's Education Committee Chair and heads the society's Mid-Columbia chapter. He is the historian/naturalist on Lindblad Expeditions' cruise ships on the Snake and Columbia Rivers. Igo has taught botany, biology, and

wilderness skills at Portland and Clark Community Colleges. Free and open to the public. Note: This meeting location is subject to change. Please watch the NPSO web site for location confirmation. For more information contact Sharon Gray at 503-581-0887.

November 18, Thursday, 7:00 pm Meeting: Wetland Prairie Restoration. Suzanne Torre, Willamette University student, will discuss her research to restore a wetland prairie at the Fairview industrial site in Salem. The purpose of Torre's project is to determine whether mitigated wetlands can be effectively enhanced with *Camassia* and other flowering plants and how reintroduced communities differ from natural riparian meadows. This research is important because it seeks

to restore the biodiversity of these areas after natural wetlands have been developed for urban and economic expansion. She also hopes to engage citizens and students in recreating valuable public spaces and wetland functions. The program, co-sponsored by The Friends of the Straub Environmental Learning Center and the Willamette Chapter, will be held from 7:00 to 8:30 pm at the Environmental Center, 1320 A Street NE, Salem (right next to Olinger Pool). Free and open to the public. For more info, contact Jean Rover at 503-364-8097.

### William Cusick

For information on the William Cusick Chapter call Frazier Nichol at 541-963-7870.

### **NPSO Items for Sale**

Vascular Plants of Lane County, Oregon: An Annotated Checklist by C. Simpson, J. Koenig, J. Lippert, R. Love, B. Newhouse, N. Otting, S. Sundberg, D. Wagner, and P. Warner. Emerald Chapter, NPSO. This new county checklist includes more than 1,740 species and varieties representing 39 percent of the 4,460 plants currently recognized by the Oregon Flora Project at Oregon State University. It also includes a color map of Lane County's five major ecoregions; and information about rare and endangered species, noxious weeds, and escaped cultivated plants. Information is included for every species on habitat, ecoregion, occurrence frequency, and native or non-native origin. To order, send \$15 payable to Emerald Chapter, NPSO to Lane County Checklist, Emerald Chapter, NPSO, PO Box 902, Eugene, OR 97440-0902.

**NPSO Membership Directory** lists names, addresses, phone numbers, and e-mail address of NPSO members (April 2003). Available from Jan Dobak, 2921 NE 25th Avenue, Portland, OR 97212-3460. **\$3 postpaid.** 

Camas Tee Shirt from Cheahmill Chapter. Beautiful moss green or tan tee shirts with botanical drawing in color of *Camassia quamash* by Carlton, OR artist and Cheahmill chapter member Marilynn Karbonski. Short sleeve, high quality, **\$15 plus shipping**. For ordering information call 503-852-7230, or send order to PO Box 291, Carlton, OR 97111.

The "Atlas of Oregon Carex" was NPSO's first Occasional Paper. The Atlas has 128 location maps, one for each Carex taxon in the state of Oregon. Also included are a synonymy, fun facts about sedges, a history of the project, and Oregon geography maps. Price: \$5.

"Louis F. Henderson (1853-1942): The Grand Old Man of Northwest Botany" by Rhoda M. Love. NPSO's second Occasional Paper is the only existing publication with detailed coverage of the long and fascinating life of this John Muirlike western character. Included: 56 pictures, 133 notes, chronology, list of plants named for Henderson. Fourth printing, February, 2004. Order your copy today! 20% off Holiday Sale! Special price \$8.00 on all orders received between today and January 31, 2005.

To order either or both Occasional Papers, send check for the appropriate amount (made payable to NPSO) to: Occasional Papers, Native Plant Society of Oregon, PO Box 902, Eugene, OR 97440-0902.

**Oregon's Rare Wildflower Poster** depicts Punchbowl Falls and three of the Columbia River Gorge's endemic wildflowers. Text on the back describes the natural history of the Gorge and the mission of the NPSO. Available from Stu Garrett, 21663 Paloma Drive, Bend, OR 97701, 541-389-6981. Individuals may order posters at **\$12 each**, plus \$3 per order for shipping. Posters are mailed in tubes.

### **OTHER EVENTS**

### **ONRC** Events

#### Threatened Wildlands of the Umpqua November 18, Thursday, 7 pm

University of Oregon Law School, Eugene, Room TBA. This free slide show is presented by Umpqua Watersheds and Oregon Natural Resources Council will showcase the natural beauty of the Umpqua River Basin and the threats facing the region. Umpqua basin resident Bob Hoehne will present spectacular aerial and on-the-ground photographs of the roadless wild lands of the region, including popular and pristine areas like Last Creek, Mount Bailey, and Twin Lakes. See wild areas affected by the Tiller Complex fires of 2002, old growth forests threatened by logging, and rugged backcountry areas that Umpqua Watersheds and ONRC are fighting to protect. The event is free and open to the public. For more information contact ONRC in Eugene at 541-344-0675.



### Fender's Blue Butterfly Habitat Restoration Project Work Party

#### November 13, Saturday, 9 am

The North American Butterfly Association Eugene-Springfield chapter (NABA-ES) is excited to have the opportunity to work with The Nature Conservancy and a local private landowner to restore habitat for Fender's blue butterfly in West Eugene. The Fender's blue butterfly (*Icaricia icarioides fenderi*) is an endangered species (under the US Endangered Species Act as of 2000) found in surviving remnants of native upland prairie in the Willamette Valley in Oregon.

This half-day work party will put you out in the field, planting native flowers and grasses to improve the habitat. Bring gloves and drinking water, and dress for dirty work, including rubber boots or work boots. Tools and refreshments will be provided. Meet at the Campbell Senior Center parking lot (155 High Street, Eugene) at 9:00 am. Call NABA-ES Volunteer Coordinator, Sabine Dutoit (541-461-3596) to register.

### Mount Pisgah Arboretum Events

Seavey Loop Rd., Eugene, call 541-747-1504 for information or to register.

#### Mushroom Festival & Plant Sale October 31, Sunday, 10 am – 4 pm

Co-presented by the Cascade Mycological Society and Lane Community College. Our annual celebration includes one of the largest mushroom displays on the West Coast, a plant sale, a scarecrow contest, children's activities, hayrides, craft vendors, food, music, and more! Suggested donation for nonmembers: \$5/person, \$10/family.

#### Fall Bird Walk November 6, Saturday, 8 – 10 am

Seek out fall migrants and year-round residents on a two-hour morning ramble through some of the best bird habitats in the area. Experienced birders Dick Lamster and Maeve Sowles help you identify and appreciate Mount Pisgah Arboretum's many bird species. Bring binoculars, a field guide, and a snack. Suggested donation \$3/members free.

#### Mushroom Walk November 7, Sunday, 11 am – 2 pm

Whether you are a beginner or brushing up on your identification skills, here is a perfect opportunity to go

mushroom hunting in the Arboretum's forest with knowledgeable mushroomers Chris Melotti and Molly Widmer. Suggested donation: \$3/members free.

#### Sketchbooks: Documenting Seasons November 14, Sunday, 1-4 pm (Part I in a series)

The leaves are gone; the rains have started but how can we sketch a scene that shows the difference between late fall and early winter? In this class we will use pencil to develop our skills and knowledge about light's effect on form. Ages 13 and up. Pre-registration required. Fee: \$20/15. Upcoming winter and spring classes will focus on detailed observational drawing.

#### Thanksgiving Nature Readings November 21, Sunday, 1:30 – 3 pm

Celebrate the harvest and changing seasons at this annual event that brings together those who love nature and literature. Bring your favorite nature writings to share in a cozy setting and enjoy hot cider and good company. Suggested donation: \$2. Meet at the Arboretum Visitor Center.

### **Pacific Northwest Native Plant Conference**

#### December 14-16, 2004 • Hilton Hotel, Eugene

NPSO is proud to be a co-sponsor of the Third Pacific Northwest Native Plant Conference! The conference will be at the Hilton Hotel in Eugene, December 14 through 16, 2004. The first two conferences were held there in 1998 and 2001. The first two highly-successful (and very well attended) conferences were jointly sponsored by the Western Forestry and Conservation Association and the OSU Nursery Technology Cooperative, who are co-sponsoring this conference as well. If you are a student, note that NPSO has sponsored seven scholarships (thank you Emerald, Portland, and Corvallis chapters!), so your registration fee can be greatly reduced if you qualify (hurry!). It has come together beautifully, and looks to be an exciting and worthwhile event! See complete conference information and registration information at www.westernforestry.org (scroll down to "Third Pacific Northwest Native Plant Conference") or call 503-226-4562 or 888-722-9416 (toll-free).

#### Field Trip, Tuesday, December 14

Visit two sites near Eugene to tour and discuss riparian and wetland restoration projects as well as a non-profit native plant nursery. Both restoration sites are large-scale, multi-objective projects in natural areas on the urban fringe. The weather will probably be cool, wet and muddy, so dress appropriately.

#### First stop: Floodplain and Riparian Restoration

This 250-acre floodplain restoration project was undertaken to restore flow to blocked river channels and restore historic habitat for native plants, fish and wildlife. The project leaders will explain restoration goals, ownership issues, and planting maintenance. A visit to the native plant nursery, created nearby to support the project, will complete the tour. Read more about the project at www.bufordpark.org/rook-ery/spring04rookeryweb.pdf.

#### Second stop: Wetland Restoration

This stop will cover restoration sites primarily in wet prairie and associated habitats. Topics will include: research on restoration methods, new discoveries about southern Willamette Valley wetland soils, incorporation of recreational faculties and the evolution of a regional partnership of city, state, federal and private agencies into a national model. Read more about it at www.ci.eugene.or.us/parks/wetlands.

#### Conference Day 1, Wednesday, December 15

Imperiled Plants: 2nd Class Conservation Citizens of the United States – Emily Roberson, Native Plant Conservation Campaign, Sacramento

Using Native Plants to Create Adaptive and Efficient Landscapes

– Clay Antieau, Seattle Public Utilities, Seattle

Propagating Native Willows and Cottonwoods for Riparian Restoration on the Hopi Reservation in Arizona – Tom Landis, USDA Forest Service (Ret.), Central Point

Invasive Plant Management in Natural Areas – Mandy Tu, Nature Conservancy Invasive Species Initiative, Portland

Growing Ferns from Spores – Martin Grantham, San Francisco State University, San Francisco Germinating Native Plants for Use in Post-fire Restoration Activities – Ed Guerrant, Berry Botanic Garden, Portland

Phytophthora ramorum: *The Cause of Sudden Oak Death and Related Diseases* – Nancy Osterbauer, Oregon Department of Agriculture, Salem

How Local is Local? Genetic Considerations in Native Plant Restoration – Kevin Rice, University of California, Davis

Restoring Native Species Following Japanese Knotweed Control – Roberta Davenport, Washington Department of Natural Resources, Olympia

The Mycorrhizal Community of Oregon White Oaks – Darlene Southworth, Southern Oregon University, Ashland

#### Conference Day 2, Thursday, December 16

Fire and Other Restoration Techniques for Native Grasslands – Bitty Roy, University of Oregon, Eugene

Twenty Years on the Front Lines: Important Conclusions from More than 1,000 Native Seed Landscape Projects – Bill McDorman, International Seed Saving Institute, Ketchum, ID

Restoration and Propagation of Native Plants on Catalina Island – Doug Serrill, Catalina Island Conservancy, Avalon, CA

Revegetation and Native Plant Propagation in Glacier National Park – Joyce Lapp, Glacier National Park, MT The Legacy Way: A Case Study in Implementing the Target Seedling Concept – Tim Acker, Legacy Land Conservancy, Albany

Propagation Protocols for Eriophyllum lanatum, Anaphalis margaritacea, and Eriogonum umbellatum – Colleen Archibald, USDA Forest Service, Central Point

Do Restoration Efforts Influence Trends in Native Plant Landscaping? – Linda McMahan, OSU Extension Service, McMinnville

Evaluating Native Plant Seeds for Post-fire Recovery on the Eyerly Fire, Deschutes National Forest – Nan Vance, USDA Forest Service, Corvallis

#### Cypripedium fasciculatum

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disturbances that thin the duff layer, such as those caused by logging, can expose or damage its rhizome and kill the plant (Knecht 1996). Other human impacts to *C. fasciculatum* include road and trail construction or other activities that directly disturb the litter and soil, such as off-road vehicle use and commercial harvesting of medicinal herbs and mushrooms.

Greater than 90% of populations in the Klamath Province of southwestern Oregon and northern California contain fewer than fifty plants (Seevers and Lang 1998). Because of its low numbers and particular growth requirements, *C. fasciculatum* has received a special status designation from several land management agencies and conservation organizations. It was first designated for special management in the Klamath Province of southern Oregon and northern California under the Northwest Forest Plan, and the Forest Service and BLM consider it a Sensitive Species.

The chief research goals for *Cypripedium fasciculatum* identified in the Northwest Forest Plan are to investigate population trends, examine effects of soil disturbance, thinning regimes, fire, and herbivory, determine the biotic and abiotic requirements for each life stage, and identify critical microclimate conditions, triggers to flowering, optimal forest stand age, benefits of fallen woody material, and levels of genetic variability.

## Learning more about clustered lady's slipper

Beginning in 1999, Penny Latham with the Cooperative Forest Ecosystem Research Program at Oregon State University initiated annual monitoring of *C. fasciculatum* populations in southwestern Oregon to evaluate their status and demographic structure, describe their habitat characteristics, and assess

Cypripedium fasciculatum often forms tight clusters of small orchid flowers, warranting the species' common name, clustered lady's slipper.

the species' response to forest canopy thinning (Latham and Tappeiner 2000). In 2003, oversight of this monitoring project was transferred to the Medford District Bureau of Land Management (BLM), which focused the scope of monitoring to 29 populations occurring across five environmental regions in Jackson and Josephine Counties. These populations are all located on federally managed lands, spanning ownerships by Medford District BLM, the Siskiyou National Forest, and Rogue River National Forest. With so many sites spread across different land ownerships, IAE is helping the Medford District BLM by continuing the population monitoring started by others.

We revisited these populations to assess the rate of plant emergence, flowering, and fruit production. On our first visit to each site, we used 2m<sup>2</sup> plot frames and plot maps to relocate individual plants that had been marked in previous years for inclusion in the study. For each emergent plant we recorded the length of its two leaves, the number of flowers or undeveloped buds it produced, litter depth at the base of the stem, and damage caused by animals. Later in the season, we returned to each site to determine how many flowers had been fertilized and produced fruit.

Our data indicate the overall rate of flowering and fruiting was higher in 2004 than last year. Among more than 1000 C. fasciculatum plants previously located in this study, nearly 55% (671 plants) emerged in 2004, with a maximum of 75 stems at one of the sites we surveyed (testimony to the small size of most populations). Of the emergent plants, 286 (43%) produced flowers but only one-quarter successfully set fruit. One of the most notable changes we observed was a population that experienced an addition of 22 new plants from 2003 to 2004, a 39% increase! Unfortunately, many other populations appear to be in decline. IAE will continue to collaborate with the BLM to monitor C. fasciculatum and explore environmental factors that affect plant growth, flowering, survival, and population dynamics.

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The work I did on the Cypripedium fasciculatum monitoring project was full of memorable experiences. Before my internship, I had seen little of the unique habitats found in the Klamath-Siskiyou region, despite being a native Oregonian. However, Karin and I were sometimes precluded from observing the diverse spring plants around us as we concentrated on the complicated navigation toward our monitoring sites, carefully scanning the woods for lengths of hot-pink flagging marking our route. On the third day of my internship, our route not only led us to C. fasciculatum, but also to one of my favorite moments of the summer: the lucky sighting of a spotted owl. Here, Karin and I had hiked into a small C. fasciculatum population in the forest near Wimer (a small town northeast of Grants Pass) when we heard the owl hooting and then noticed it resting

above us on the branch of a madrone. The delight I felt at such a rare experience was comparable to that of spotting a delicate clustered lady's slipper orchid in flower, nestled among layers of decaying needles in the dim light of the forest floor.

I would like to thank all of the staff of the Institute for Applied Ecology for making my internship an unforgettable and very educational experience. The Native Plant Society of Oregon is doing a wonderful service to young botanists in supporting internship opportunities such as this and I thank them as well. Finally, the Medford District BLM provided funding for this project, as well as much needed support which enabled IAE to begin their contribution to this *Cypripedium fasciculatum* research on the right foot.



The flowers of Cypripedium fasciculatum look quite small compared to the large leaves.

NPSO/IAE intern Cara Benfield (right) and IAE botanist Karin Rohland (left) spent much of their summer together in the forests of southwestern Oregon, monitoring populations of C. fasciculatum.

#### Literature Cited

Knecht, D. 1996. The Reproductive and population ecology of *Cypripedium fasciculatum* (Orchidaceae) throughout the Cascade Range. M.S. thesis. Central Washington University, Ellensberg, Washington. 64 pp.

Latham, P. and J. Tappeiner. 2000. The Ecology of Rare Plants. *The Cooperative Forest Ecosystem Research Program Annual Report 2000*. Oregon State University, Corvallis, Oregon.

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<www.or.blm.gov/surveyandmanage/MR/VascularPlants/section9.htm>.

### **New Members**

#### 4/8/04 - 10/15/04

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Tuhi Gill

#### Corvallis

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### **Request for NPSO Fellows Nominations**

by Fellows Committee: Shane Latimer, Kelli Van Norman, Rhoda Love, Veva Stansell

The Fellows Committee is ready to receive nominations for the year 2005. Nominations may be made by Chapters, individual members or the State Board under the following guidelines:

Nominees will be members who have given outstanding service to the Native Plant Society of Oregon (NPSO). They may have been instrumental in establishing the State Organization or a Chapter, or perhaps produced distinguished editorial contributions, or served as an inspirational teacher of botany. They may have in other ways contributed valuable work relating to native plants or to the goals of NPSO.

The nominating group or person should prepare a formal letter of nomination for consideration by the NPSO Fellows Committee. The letter should include detailed biographical and background information about the nominee. A photo of the nominee suitable

for an article in *Kalmiopsis* should be provided by the nominator.

After review of the nominating letters, the Committee will make a recommendation to the State Board. Acceptance as Fellows will be by vote of the Board of Directors at a State Board meeting. Fellows will receive a framed plaque and a life membership in NPSO, and will be featured in an article in *Kalmiopsis*.

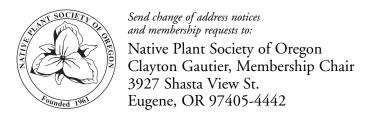
The NPSO Fellows Committee asks that letters of nomination for the year 2005 be sent by December 1, 2004, to Veva Stansell at the address below. Nominations will be presented to the Board of Directors at the January Board meeting.

#### For more information please contact:

Veva Stansell PO Box 6077 Pistol River, OR 97444-1575 541-247-7153

## NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

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		Membership is for the calendar year. New memberships enrolled after		
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