

Bulletin of the

# NATIVE PLANT SOCIETY OF OREGON

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

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Native Plant Society of Oregon PO Box 902, Eugene OR 97402  
Membership inquiries: Jan Dobak, Membership, 2584 NW Savier St., Portland OR 97210-2412  
For more society information, see the inside back cover.

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. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. Each group using wilderness must be no larger than 12.

## STATE NEWS

26 Sept., Sat.

**STATE BOARD MEETING** at the Oregon State University Botany Department (Cordley Hall), in the 2nd floor Botany Conference Room at 10 am. Directions: follow Harrison Blvd. (off Hwy 34) west to Street; turn left (south) and follow 30th 4 blocks to Orchard; turn left (east) on Orchard; entrance to Cordley Hall is on the right (south) side of Orchard near 27th St. Bring lunch.

## CHAPTER NEWS

### Blue Mountain



For information call Jerry Baker (566-2244).

### Corvallis

8 Sept., Tues.

**MEETING.** 7:30 pm at 3290 SW Willamette Ave. This meeting is to discuss conservation issues and the fall program. There will not be a speaker. Call Duncan Thomas (752-6529) for information.

### Emerald



For information call Bruce Newhouse (343-2364).

### High Desert

22 Sept., Tues.

**MEETING.** The first fall meeting will be a potluck social at Stu Garrett's house at 7pm (21663 Palama Drive) in northeast Bend. Call Stu (389-6981, eves.) if unsure of directions. Bring a main dish, salad, appetizer, or dessert and your own place setting. We will discuss chapter activities and meetings.

## Mid-Columbia

2 Sept., Wed.

**MEETING.** 7:30pm at the Mosier School. A presentation on the "Ethics and Issues of Reintroducing Rare Plants" by Tom Kaye of the Corvallis NPSO Chapter.

## North Coast

19 Sept., Sat.

**FIELD TRIP:** Bill Miles will lead a tour of Bear Creek Artichoke Nursery. Meet at the Nursery at 10am. Call Jim Winslow (842-2246) for more information.

29 Sept., Tues.

**MEETING.** 7pm at the Carl Rawe Meeting Room in the Tillamook PUD, 1115 Pacific, Tillamook. Program to be announced.

Date to be announced.

**FIELD TRIP:** Dr. Craig Roberts will lead a birding field trip. Date, time, and place to be announced. For information call Jim Winslow (842-2246).

## Portland

5 Sept., Sat.

**FIELD TRIP:** Mirror Lake & Tom, Dick & Harry Mountain. For more information contact George Lewis (760-2316). Moderate hiking.

8 Sept., Tues.

**MEETING.** 7 pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Charlene Simpson will present a slide program on the rare and endangered plants of Lane County that are of concern to the Emerald Chapter NPSO. Charlene is known for her beautiful photography.

19 Sept., Sat.

**FIELD TRIP:** Mount Hood Meadows. For more information contact George Lewis (760-2316). Moderate hiking.

## Siskiyou

17 Sept., Thurs.

**MEETING:** Potluck in Glenwood Park, corner of Ashland St. & Glenwood Dr., 6:30pm, followed by meeting at 7:30pm in Room 171 of the Science Building of Southern Oregon State College. Bring five slides of your summer activities. The public is invited. For information call David Kennedy (535-6383).

19 Sept., Sat.

**FIELD TRIP.** David Steinfield, Assistant Manager of the USFS J. Herbert Stone Nursery, 2606 Old State Road, Central Point, will lead a tour of the nursery at 10 am. We will discuss new perspectives in biodiversity and yew regeneration. For information call Ginny Post (779-4102)

## South Coast

For information on the pending formation of this chapter, contact Bruce Rittenhouse (888-9328).

## Umpqua Valley

10 Sept., Thurs.

**MEETING:** 7pm in Room 311 of the Douglas County Courthouse.

12 Sept., Sat.

**FIELD TRIP:** To see *Aster vialis*. Leave at 7:45am from the BLM parking lot, 777 Garden Valley Rd. For information, call Russ Holmes (672-4635).

## Willamette Valley

12 Sept., Sat.

**FIELD TRIP:** Breitenbush Lake—in the Cascades east of Detroit Lake. Beautiful area for fall colors. Leave from Dallas Safeway parking lot at 9am. Call Leader Wilbur Bluhm (393-2934) for details.

21 Sept., Mon.

**MEETING:** 7pm in Room 225 of the First United Methodist Church at 600 State Street (corner of Church & State), Salem. Jim Crane will present a program entitled "Meadowfoam – from wildflower to commercial crop" He has been researching meadowfoam for 23 years through OSU.

## William Cusick



For information, call Bob Ottersberg (742-6200).

**BOOK REVIEW:**  
**HERE IS AN OUTSTANDING NEW BOOK ON FOREST ECOLOGY**

**The Olympic Rainforest: An Ecological Web**, by Ruth Kirk with Jerry Franklin, University of Washington Press, Seattle, 1992. 128 pp., line drawings, 146 photos, maps, bibliography, glossary, index, 8.5" X 11".  
 Price: \$35.00 (cloth); \$17.50 (paper).

I am delighted with The Olympic Rainforest: An Ecological Web, an outstanding new book on Northwest coniferous rainforest ecology, by Ruth Kirk with Jerry Franklin.

As an example of nature writing, the book is at the top of its class. Ruth Kirk's knowledge of the Northwest is impressive and her prose is eminently readable. The stunning color photos of the rain forest by the author and her husband, Louis Kirk, a former ranger-naturalist for Olympic National Park, are heart-wrenchingly beautiful. Beyond this, however, what takes The Olympic Rainforest beyond the realm of nature writing and makes it an important reference work, are its up-to-date and scientifically correct descriptions and explanations of forest ecosystems, presumably contributed in large part by the University of Washington's Jerry Franklin, whom we in NPSO know as the world leader in old growth research.

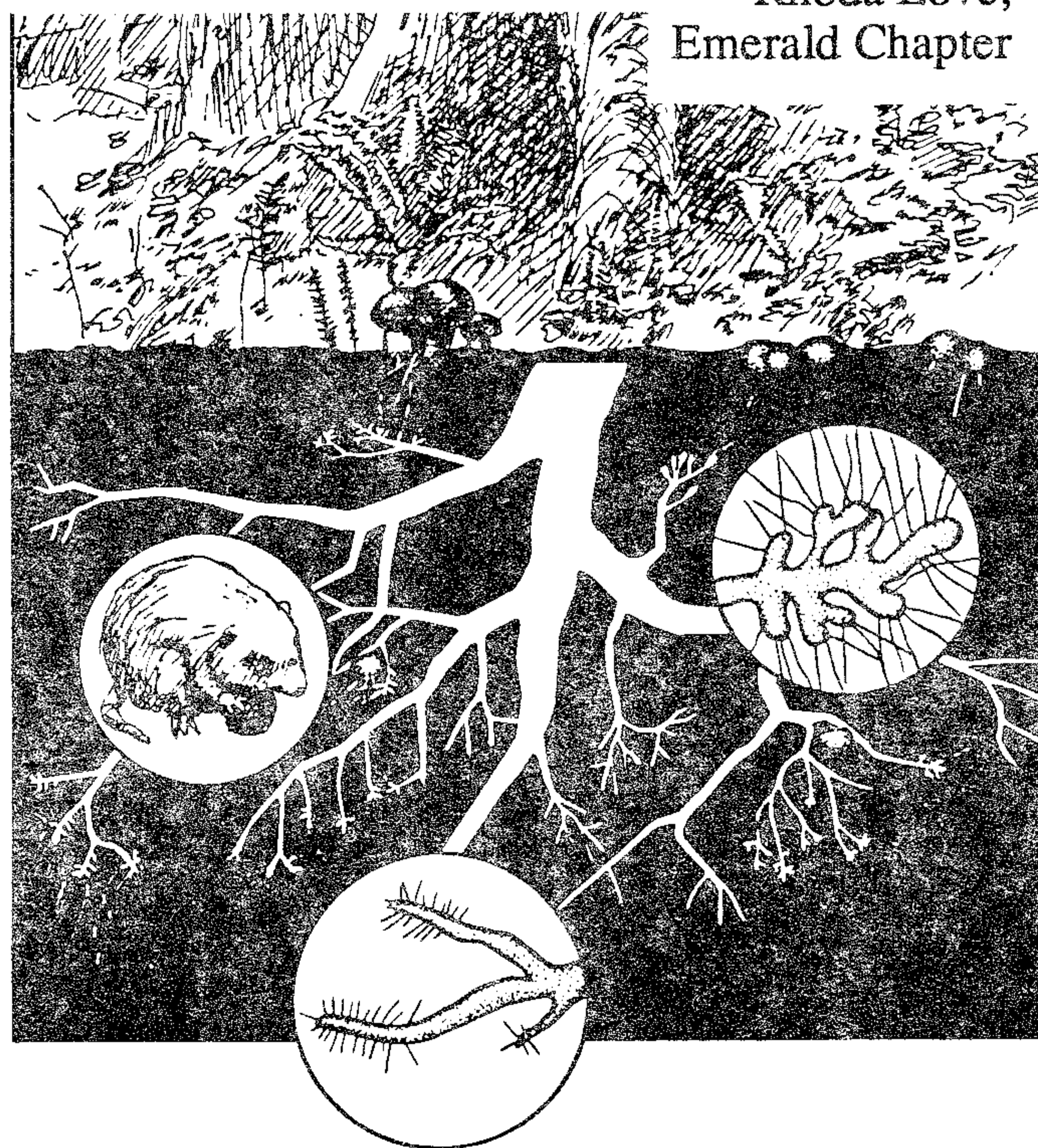
If you want a single volume which summarizes and synthesizes the recent decades of work on old growth ecology which have taken place in Oregon's H. J. Andrews Experimental Forest and on the Olympic Peninsula by Franklin and his associates, here is the reference you are looking for. Franklin's own research as well as that of Chris Maser, Bill Denison, Fred Swanson, Jim Trappe, Nalini Nadkarni and others who have added to our understanding of the old growth forest is all summarized here. These are our new foresters who have explained the complicated and essential roles of fungi, lichens, mosses, and animals such as insects, birds, and rodents in the structure and health of our ancient and magnificent west-side coniferous forests.

Have you wondered what important role is played by truffles in the old growth forest ecosystem? Wondered why and how mice and voles inoculate the soil with spores of essential mycorrhizal fungi? Perhaps you would like to know how the slow-growing *Lobaria*, the lung lichen, enriches the soil beneath its host tree. Do you know why

downed wood is essential to a regenerating forest? Have you ever heard of scuzz? What is the hyporheic zone of a stream and what lives there? Can you imagine how a Hawaiian chief could own a Douglas fir outrigger canoe? Or, on a lighter note, do you know what happens when a bull elk falls in love with a dairy cow? The answers to these questions and many more can be found here.

Last year (NPSO Bulletin, December, 1991), I reviewed that superb new book on Northwest ecology, Arthur R. Kruckeberg's The Natural History of Puget Sound Country. Now here, fast on its heels, is yet another outstanding volume from the same publisher. Bravo, University of Washington Press! I'm very proud of my old school press's obvious commitment to print the finest in Northwest ecological writing. I heartily recommend The Olympic Rainforest: An Ecological Web, by Ruth Kirk and Jerry Franklin to all readers who care about and wish to know more about our beautiful and unique Northwest forests.

Rhoda Love,  
 Emerald Chapter



This drawing from The Olympic Rainforest: An Ecological Web "shows fungal hyphae...contacting roots; the resulting mycorrhizae (right Circle); a non-mycorrhizal root with root hairs (bottom circle); and a red-backed vole eating a truffle (left circle)."

## BLM SPONSORING RARE PLANT SPECIES

To safeguard against the extinction of plants native to the Northwest, the U.S. Bureau of Land Management (BLM) has joined efforts to sponsor rare plant species through the national Center for Plant Conservation (CPC). The Center maintains a comprehensive program of plant conservation, research, and education through cooperating regional centers.

In a June 9 ceremony, the CPC presented BLM with a pair of original watercolors in recognition of the Vale District's sponsorship of two endangered eastern Oregon plant species.

Don Falk, Director for the CPC, presented the paintings to BLM's Oregon / Washington State Director D. Dean Bibles, and to Vale Associate District Manager Geoffrey Middaugh and district botanist Jean Findley. The event took place in Portland at the Berry Botanic Garden, responsible for CPC's regional seed bank. The seed bank now contains more than 200 species, subspecies, and varieties of the region's rarest plants.

"The efforts of dedicated botanists like Jean set a good example for other districts and other agencies to get involved in protecting and preserving rare plants throughout the region," said Bibles. "Only by ensuring their survival can we maintain the full variety within native ecosystems."

The watercolors, created by botanical artist Bobbi Angell, depict smooth blazing star and Biddle's lupine, both species sponsored by BLM. The agency is also a sponsor of Mulford's milkvetch and Malheur wire-lettuce. "These paintings take the plants out of the background and focus on their beauty and uniqueness," said Dr. Linda McMahon, Executive Director of the Berry Botanic Garden.

Smooth blazing star, a small annual with bright yellow flowers, grows only on fragile ash outcrops in the desert of southeastern Oregon, northern Nevada and southwestern Idaho. The plant was petitioned as a threatened species in 1991 because of its extreme rarity, its narrow range and specific habitat, and because of its vulnerability to disturbance.

Biddle's lupine, which grows primarily on the border of Malheur and Harney counties, is a perennial lupine with light yellow flowers that bloom in early spring. The species, vulnerable to both rodents and human activities, grows only in Oregon.

BLM's Vale District became a sponsor of the rare plants in 1990 by contributing \$5,000 per plant, an amount matched by the Mellon Foundation. Sponsorship contributions are used to maintain permanent seed banks kept at sub-zero temperatures, as well as a living collection of endangered flora under protective cultivation. This strategy will prevent the total extinction of rare species and provide plants for reintroduction or studies as necessary.

"The willingness of the BLM and others to sponsor rare plants provides continuing opportunities for scientists and biotechnicians to study them," explained McMahon. "From the core collection, plants can be propagated for research that the wild populations are too fragile to endure. Conservationists managing these species in the wild can learn from horticultural experiments how to strengthen and increase those populations, helping them persist."

—Leslie Robinette

## A HYBRID FERN NEW TO OREGON

Ferns of an unusual shade of green...Last fall that clue triggered the discovery of a hybrid fern never seen before in Oregon. The parents of this new hybrid are the familiar sword fern (*Polystichum munitum*), and the Anderson shield fern (*P. andersonii*). Both parents are dark green in color, while the hybrid plants are brighter, more of a lime-green shade.

The plants were found last summer on the Bureau of Land Management's (BLM) Salem District by Clackamas Resource Area's Botanist, Mike Woodbridge. The finding of the new hybrid plants came about as Woodbridge, on an Area of Critical Environmental Concern monitoring assignment, caught a glimpse of the striking color, and investigated. Climbing a 15-foot roadbank (overgrown with devil's club) he counted a colony of about 200 ferns. Not quite half of these were Anderson shield fern, while more than 100 plants were the hybrids, intermediate in morphology between sword fern and Anderson shield fern.

Hybridization between these two fern species is quite rare, according to Dr. David Wagner, University of Oregon botanist, who later visited the site with Woodbridge, and confirmed the identification. Progeny of this cross had never been reported previously from Oregon, and only three times from the Northwest, in Washington and Alaska.

Several features are significant about the hybrid site. Dr. Wagner considers the size of the colony and the vigorous growth of the offspring particularly striking. He and Woodbridge believe that habitat disturbance may be involved in the successful establishment of the progeny. In general, fern hybrids are "between a rock and a moist, bare substrate" in terms of opportunity for establishment.

In our region, most species of plants in the same genus occupy slightly different habitats. Hybridization is most likely to take place when the different habitats are contiguous (right next to one another) and the parent species are found in close proximity. In this case, however, both polystichums grow naturally in the same type of habitat. (Co-occurrence of these two species is rare because Anderson shield fern is so uncommon. This locality is significant even for the abundance of both parent species growing together!) The hybrids will originate and persist in the ecotone between the habitats. Disturbance often creates such a "hybrid habitat" as well as creating numerous microsites offering many chances for new individual ferns to become established.

In their natural habitat the obstacles to hybridization are the general ones limiting reproduction of the parent species: very few sites are available for spore germination and subsequent fertilization of gametophytes to establish a new individual.

Fern spores need moist, bare mineral soil to germinate and thrive. Such microsites are rare in an undisturbed forest. The disturbance caused by logging on this site facilitated hybridization not because it created hybrid habitat but because it opened up many suitable microsites for reproduction. Bare soil was turned up and the seepy hillside kept it moist. With so many opportunities for gametophytes to grow, the chances of gametophytes from the two different species growing next to each other and exchanging gametes was greatly enhanced.

Another favorable feature of the hybrid progeny appears to be an intriguing and extremely advantageous reproductive mechanism. We're all familiar with the sporangia producing stage in ferns, when the fronds bear clusters of small brown sori (sometimes called "fruit dots") on the lower sides. However, in hybrids spore formation usually is poor and even vigorous plants are almost always sterile. But ferns and many other vascular plants often take "reproductive shortcuts", involving various means of asexual or vegetative reproduction. A common example is bracken, which forms large clones (genetically identical individuals) as underground stems spread. In the Northeast, the "walking fern" (*Camptosaurus rhizophyllus*) produces arching leaves which root at the tips, sprouting new plants. Here in the Northwest, the fronds of the Anderson shield fern form vegetative buds on the upper pinnae. As the fronds droop, these buds begin to take root, forming plantlets identical to the original fern.

Fortunately for the new Oregon hybrid, the progeny displays the same capability to form buds on the fronds as does Anderson shield fern. The offspring are not dependent on sexual reproduction for new individuals to spread out and colonize the available habitat; the ability of the hybrid to "clone" may explain the vigor and size of the BLM Clackamas Resource Area colony. Dr. Wagner and Woodbridge are continuing observations on the growth and life cycle of the unusual hybrids. This double advantage of vegetative reproduction and local habitat availability seems to have given this unusual hybrid a ticket to establish residency in Oregon.

—Claire Johnson, BLM Botanical Volunteer  
and David Wagner, University of Oregon

## KALMIOPSIS

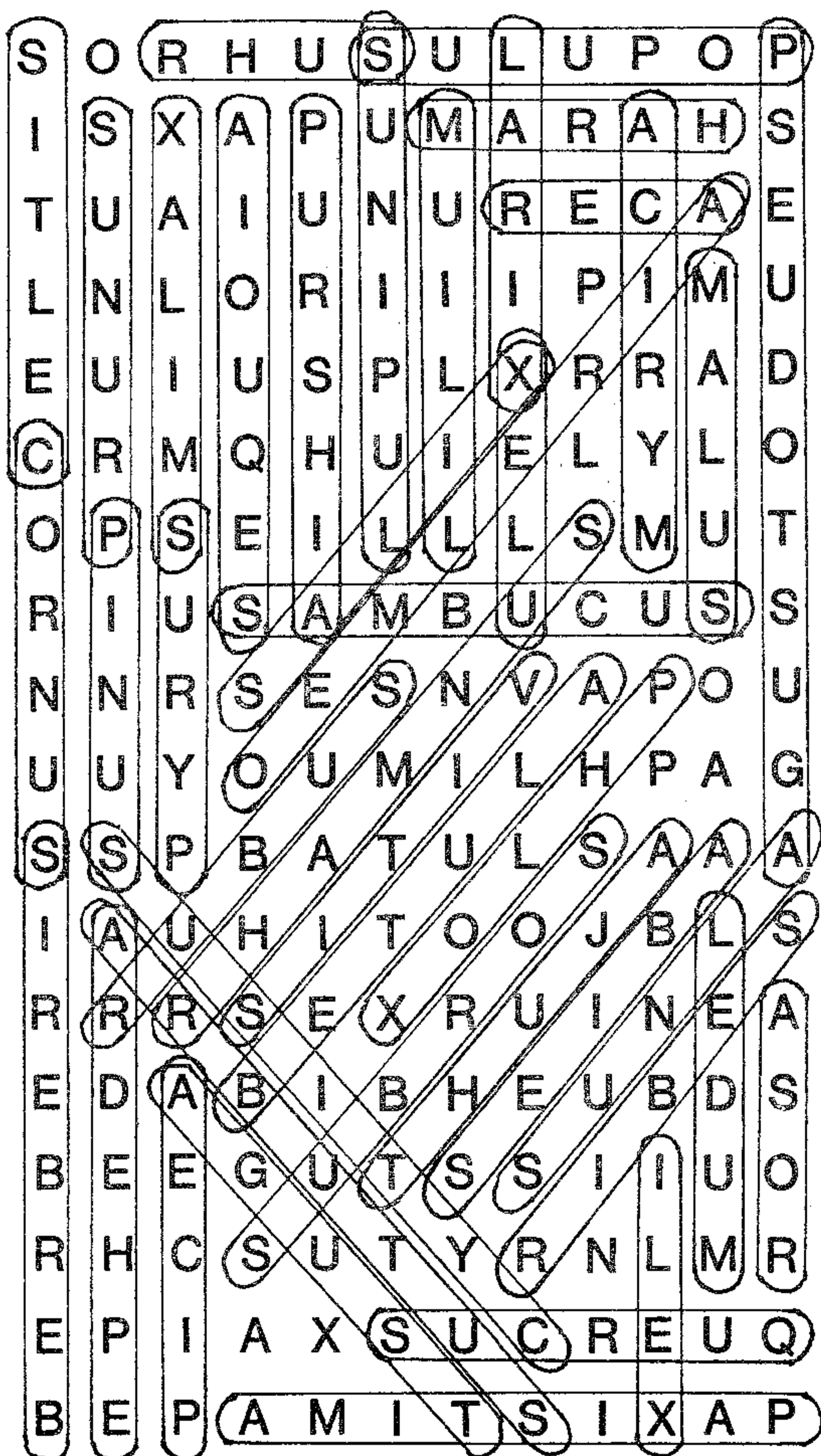
By now you should have the 1992 issue of *Kalmiopsis*. My thanks to my fellow editors, Stu Garrett, Rhoda Love and Susan Kephart, and the authors for making it possible. Due to many unforeseen "incidents", the issue was delayed several months. I hope you like this issue of *Kalmiopsis* as much as I appreciated the handsome wood box that Barbara Mumblo so graciously accepted on my behalf at the annual meeting.

--Frank A. Lang  
*Kalmiopsis* Editor

## EFO—WORKPLACE GIVING FOR THE ENVIRONMENT

The Environmental Federation of Oregon (EFO), which the NPSO joined two years ago, offers an easy, convenient way for you to support the Native Plant Society of Oregon. By taking advantage of workplace giving, employees of EFO-participating companies can choose to help 23 of Oregon's leading environmental organizations.

If your company is listed below, watch for EFO campaign materials this fall. If you decide to give you'll receive all the membership benefits of direct donation, without the hassle of licking a stamp or finding a mailbox. If you designate your donation to go to the Native Plant Society of Oregon, then 100% of your donation will go directly to the NPSO, with no deductions, service charges or administrative fees.



EFO doesn't have a big staff with high salaries or fancy perks. Working out of a small downtown Portland office, a 3 person staff (top salary \$28,000) coordinates workplace giving campaigns that have raised over half a million dollars to benefit Oregon's environmental organizations. Members like NPSO have been contributing 50 to 100 hours of service yearly to help run EFO.

For more information on setting up an EFO workplace giving program where you work, contact the NPSO EFO board representative, Jimmy Kagan (233-1048) or Louise Tippens of EFO (223-9015).

The EFO will host a kick off for this fall's campaign at noon, Thursday Sept. 17th, in Terry Schunk Plaza at 4th & Madison in downtown Portland. Live music will be performed by the Latin American group Condor. This event will be a good opportunity to show support for Oregon's conservation community.

The NPSO and EFO would like to thank the following organizations for their participation in this convenient and effective means of supporting Oregon's environmental community:

### Combined Federal Campaigns:

Benton Deschutes, Jackson, Lane, and Marion Counties, and Portland Tri-County Area.

- 1000 Friends of Oregon • Avia Shoes •
- City of Ashland • City of Corvallis •
- City of Portland • Colonial Pacific Leasing •
- Dynagraphics • Emerald People's Utility District •
- Graphics Arts Center • Kettle Foods •
- Linfield College • Metropolitan Service District •
- Multnomah County • Nike •
- Oregon Research Institute • Pacific University •
- Port of Portland • Premier Press • Reed College •
- Recreational Equipment, Inc. • State of Oregon.

### SOLUTION TO LAST MONTH'S WORD PUZZLE

The plant name that can be made from the unused letters is *Oplopanax*, the devil's club.

Rate your results according to how many genus names you found by the following scorecard:

- |       |              |                       |
|-------|--------------|-----------------------|
| 40-43 | Genius level | 27 or below — I said  |
| 36-39 | Very sharp   | the puzzle was devil- |
| 32-35 | No slouch    | ish! —Ken Chambers    |
| 28-31 | Passable     | Corvallis Chapter     |

