THE BULLETIN OF THE

# NATIVE PLANT SOCIETY of OREGON

·OBJECTIVE·
To increase the knowledge of members and public in identification and conservation of the native plants of the Pacific Northwest.

VOL. XV No. 4. APRIL 1982

## PACKARD TO SPEAK AT ANNUAL MEETING

Dr. Patricia Packard, an authority on the native plants of Oregon's Owyhee Uplands will be the keynote speaker at the annual meeting of the Native Plant Society of Oregon. A long-time member of the College of Idaho's Biology Department, Dr. Packard will speak on "Evolutionary Problems in Plants of the Owyhee Uplift."

The annual meeting will be held at the Malheur Field Station which is located 32 miles southeast of Burns on Saturday, May 29. Dinner will be at 6:00 p.m. in the Field Station's Cafeteria and Dr. Packard's speech will begin at 7:30 p.m. The March Bulletin outlined other activities associated with the annual meeting.

## HOW TO GET TO THE ANNUAL NPSO MEETING

From the stoplight in the center of Burns:

Take State Highway #78 (Crane-Winnemucca Hwy.) to Poison Creek Grange 2 miles east of Burns -

Turn right on State Highway #205 (Frenchglen-Fields-Denio Hwy.) -

Procede 25 miles south over Wright's Point to the Malheur National National Wildlife Refuge Sign -

Turn left on county road -

Proceed 2.4 miles to Field Station Road (see "barrel" mailbox along fence) -

Turn right and be prepared for washboard vibrations!

Proceed 1.4 miles south around North Coyote Butte to Field Station Parking lot.

The cafeteria, in which the annual meeting will be held, is the large blue building located in the center of the dormitory "ring."

Sunday's field trip (Catlow Valley, Fields, Alvord Desert, Folly Farm) - - - - - - - - -

Monday's field trip (Diamond Craters, Barton Lake Round Barn) - - - - - - - - - - - - - - -

## CHAPTER NEWS

### HIGH DESERT CHAPTER

Meeting: NOTE CHANGE OF MEETING PLACE

April 27, 7:30 p.m. at Far West Federal, on third Street. Marge Ettinger will speak on "tips on botanizing." Harvey Waldron, botany teacher at COCC spoke to the H.D. Chapter on March 30 about his work on plants near the irrigation canals in the Central Oregon area. He has found higher elevation plants which have been transported to their new locations by the water.

### CORVALLIS CHAPTER

The NPSO welcomes the Charter Members of our newest Chapter:

| | |
|---|---|
| President | *Ester McEvoy |
| Vice-President/ Secretary | Jacque Greenleaf |
| Treasurer | Catherine McDonald |
| Keven Brown | *Ken Chambers |
| Thomas Chastain | Scott Crig |
| *Bob Frenkel | Charles Halpern |
| Carl J. Johnson | Christine C. Johnson |
| Elaine Joyal | Dan Louma |
| Allison Louma | Teresa Magee |
| *Bob Meinke | Laura Morrison |
| Soozie Neberzahl | Paul Reid |
| J. Douglas Ripley | *Steve Shelly |
| Mark Stern | Dave Walter |
| Jeff Witcosky | *Carolyn Wright |
| Tom Dudley | Joe Antos |
| * - Already NPSO members | Peter B. McEvoy |

Meeting:

Thursday, April 15, 7:30 p.m. (Meeting will occur the 3rd Thursday of each month, in the Botany Conference Room, Room 2082, Cordley Hall, OSU Campus.) Sensitive Plants in the Mid-Willamette Valley, by Bob Meinke, and Succession of Plant Communities effected by the eruption of Mt. St. Helens, by Miles Hemstrom. Following the talks will be a business meeting, at which the official name for the Corvallis Chapter will be chosen.

Field Trip:

Sunday, May 2. Plants of the Finley Wildlife Refuge, by Bob Meinke. Details in the May Bulletin.

### PORTLAND CHAPTER

Meetings:

Wednesday, April 28, 1982, 7:00 p.m. Central Library, 801 S.W. 10th, Portland. Flowers of the Siskiyous. The program will be presented by George Lewis, Ex-president of the Portland Chaper, Chairman of the Leach Garden, photographer, and all around dedicated flower lover.

Wednesday, May 26, 7:00 p.m., Central Library, 801 S.W. 10th, Portland. Oregon Wilderness Coalition. The program will be presented by Nancy Peterson of the Oregon Wilderness Coalition.

## PORTLAND CHAPTER

Field Trips:

3 April. Mosier Area. Keith Chamberlain, leader. Carpoool at Department of Motor Vehicles parking lot (address above) at 8:30 a.m., or meet Keith at Mosier Exit on I-84 at 10:00. Keith will take a similar route (past Wasco Lookout) as his trip for the Annual Meeting last year. This trip is 5 weeks earlier and should show us a clearer mix of spring and early summer wildflowers. This is a joint trip with our Willamette Chapter.

10 April. Dry Country Flowers. Keith Champberlain, leader. Carpool at Department of Motor Vehicles Parking Lot at 7:45 A.M., or meet Keith at Willowdale at 10:00. This is a car trip with many stops likely to cover 100 miles. Keith hopes to find a variety of dry country flowers, including several Lomatiums, Erigerons and Pediocactus simpsonii. This is a joint trip with the High Desert Chapter from Bend.

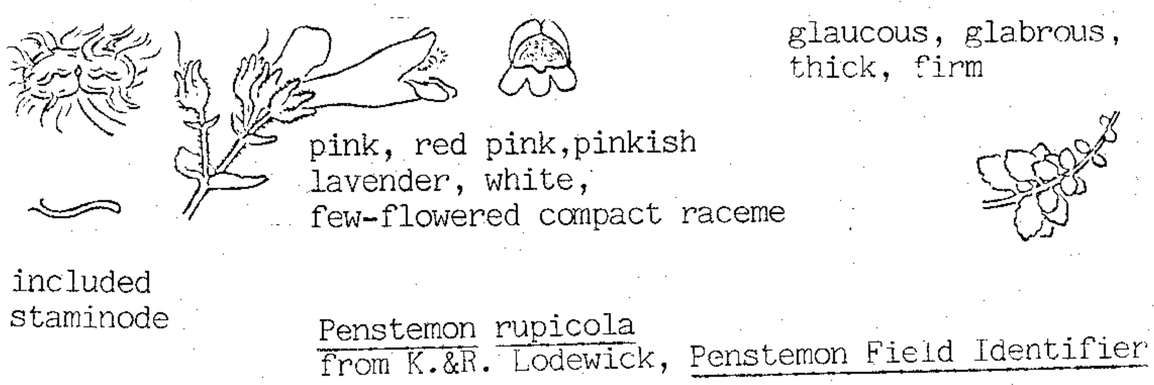
17 April. Fifteen Mile Creek. Rick Brown, leader. Carpool at Department of Motor Vehicles parking lot (N.E. 60th & Glisan) at 7:30 a.m. This is a 10 mile loop hike which can be shortened to meet the desires of the group. Fifteen Mile Creek is located in the Badger/ Jordan Creek area east of Mt. Hood. This trip features a variety of streamsides, meadows, rock outcrops and closed woods.

24 April. Starvation Creek. Shep Wilson, leader. Carpool at Department of Motor Vehicles at 7:30 a.m. This is a 2-3 mile hike through forest and along lava cliffs above the Columbia River.

1 May. No trip scheduled.

8 May. Hamilton Mountain. Louise Godfrey, leader. Carpool at Department of Motor Vehicles parking lot at 8:30 a.m., or meet at Trailhead at 9:30. The Trailhead is located on the north side of Highway 14 in the picnic grounds of Beacon Rock State Park. This is an 8 mile round trip hike with many attractions for those who prefer a shorter distance. The trail climbs past a spectacular waterfall, through forest, then open rock gardens, past sheer lava cliffs, and finally opens to expansive vistas of the Columbia River far below.

15 May. Panther Rock. Dr. George Jeffcott, leader. Carpool at Tri-Met's Handyman Park and Ride lot (15550 S.E. McLaughlin Blvd.) at 9:00 a.m. This is primarily a car trip with some brief hiking. Expect to see Erythronium oreganum and grandiflorum plus Penstemon rupicola on rock outcrops.




Penstemon rupicola
from K.&R. Lodewick, Penstemon Field Identifier

## EMERALD CHAPTER

Important Notice:

CHANGE IN MEETING PLACE. Because of drastic budget cutbacks, the City of Eugene will no longer be able to keep the City Library open Monday evenings for group use. Beginning April 5, the Emerald Chapter will meet at The American Red Cross Building, Lane County Chaper, 150 E. 18th Street, Eugene. Meet at 7:15 p.m., first Monday of each month, as usual.

Meetings:

Monday, April 5, 7:15 p.m. Rare, Threatened and Endangered Native Plant Species with a Focus on the Willamette Valley. Anne Kowalishen, State NPSO Vice President and botanist for the Portland Park Bureau currently assigned to the Mt. Tabor Wildflower Project, will present a slide show and program. Anne will update us on efforts to gain recognition and protection for species of concern and suggest what we can do in support of the State NPSO's Endangered Plant Committee, which she chairs. Meet at the American Red Cross Building, 150 East 18th Street.

Monday, May 3, 7:15 p.m. Wildflowers of the Mount Pisgah Arboretum: a slide show as a joint effort by Dave Wagner, Arboretum Vice-President, Rhoda Love, NPSO State President Nominee, and Charlene Simpson. The Arboretum will be the site of a wildflower show May 2. We'll have a native plant checklist on sale. Proceeds go to the Arboretum. Meet at the American Red Cross Building, 150 East 18th Street.

Monday, June 7, 7:15 p.m. Wildflowers of the South West: Utah, Arizona, California. Harold Dunn, Emerald Chapter member and long time plant lover, will show us slides from his many trips to the Grand Canyon, Joshua Tree National Monument, and the Anza-Borrego Desert. Meet at the Anerican Red Cross Building, 150 East 18th, Eugene.

Field Trips:

April 18. Harold Dunn's Mohawk Valley/ Coburg Hills property. Meet at Albertson's Market, 1950 Olympic (Springfield mall) at 1:00 p.m., or go out ahead of time for a picnic. Call Harold for directions. 746-3063.

April 24. Wild Cat Creek Road (Route F). Meet in large parking lot at Perkins' Peninsula Park, Fern Ridge Reservoir at 9:30 a.m. Charlene Simpson, leader.

May 9. Jasper Park Picnic and Wildflower Walk. Bring the family. Walk begins at 1:30 p.m., with Dave Wagner as leader. 686-3033.

Emerald Chapter members: see insert for more field trips to come. Others, send S.A.S.E. to Charlene Simpson for schedule.

Flower Show:

The Emerald Chapter will share a table display with Friends of the Arboretum at the Eugene Garden Club's Flower Show, Saturday and Sunday, April 3 and 4, in the Valley River Mall, Eugene.

## OVER 1300 SIGNATURES COLLECTED ASKING FOR ORV BEACH CLOSURES ON THE CENTRAL OREGON COAST

Citizens for "Untreaded" beaches, with the endorsement of numerous other Oregon Conservation Groups, has turned in over 1300 signatures requesting the Oregon State Parks & Recreation Division of the Dept. of Transportation to close three beaches, which, by and large, parallel existing ORV closures along the dunes in the Oregon Dunes National Recreation Area. Individuals need to express their support of these proposed vehicle closures at the following public hearings:

Eugene City Council Chambers
777 Pearl
Tuesday, April 27, 1982
7:30 p.m.

and

Reedsport High School
2260 Longwood Dr. (off Hwy. 101)
Wednesday, April 28, 1982
7:30 p.m.

For additional information send a stamped, self-addressed envelope to Citizens for "Untreaded" Beaches (CUB), P.O. Box 1725, Eugene, Oregon, 97440, or P.O. Box 1479, Florence, Oregon 97439. Also see page 24 of the Jan.-Feb. Wild Oregon of the Ore. Wilderness Coalition or the April edition of the Conifer of the Ore. Chapter Sierra Club.

## BLUE MOUNTAIN CHAPTER

Meeting:

April 8, 1982, 7:00 p.m. Pacific Power & Light Conference Room, 116 SE Dorion Avenue, Pendleton. Purpose: to finalize field trip schedule.

Field Trips:

April 17, 1982. Twin Rocks, Wallula Gap, Washington. Brilliant displays of early desert wildflowers should await us. Our trip leader Robert Judd hopes to locate Pediocactus simpsonii in the area prior to our trip. Carpool from the south parking lot at BMCC at 8:30 a.m., or meet at the Twin Rocks pullout area on Highway 395/720 at 10:00 a.m.

May 2, 1982. Umatilla Forks Area - North Forks Trail. Early mountain wildflowers abound in this area and can be easily observed from the North Fork Trail. Western coltsfoot (Petasites frigidus), wild ginger (Asarum caudatum), and many other "Cascadian" plants should be in full bloom for this trip. Leader: Karl Urban. Carpool from the south parking lot at BMCC at 9:30 a.m.

May 22, 1982. Sheep Creek, Imnaha River Drainage, Wallowa County. Our Wallowa Mountain experts Roy and Rachel Sines will share their knowledge of special Wallowa plants on this trip. Cusick's Primrose should be blooming at this time. Meet at the Sports Corral parking lot in Joseph at 10:30 a.m. Carpool from the south parking lot at BMCC at 7:30 a.m.

May 29, 30, 31. State NPSO Meeting. Malheur Field Station. Field trips to the Alvord Desert and to Diamond Craters.

## WILLAMETTE VALLEY CHAPTER

Meetings:

Tuesday, April 20, 7:00 p.m. at Grant School, 725 Market Street N.E., Salem. Propagating and nurturing native plants and seeds, by Vi Sobolik. The evening is sponsored by the Willamette Valley Chapter of the NPSO and by Salem Community Schools.

Tuesday, April 27, 7:00 p.m., at Grant School, address above. Wildflowers of the Cascades, by Wilbur Bluhm. Also sponsored by the Willamette Valley Chapter NPSO and by Salem Community Schools.

Next regular meeting will be on September 20. Until then join us this summer on the field trips.

Field Trips:

April 3. Mosier area with Portland Chapter. Carpool at south Salem K-Mart parking lot at 7 a.m. or meet leader at 10:00 a.m. at south of I-5 overpass at Mosier. Leader, Keith Chamberlain, 478-2802.

May 8. Silver Falls State Park, including Native Plant Exhibit by Blanche Sweger. Carpool at south Salem K-Mart parking lot, northeast corner, at 8:00 a.m.

Above are all-day trips. Bring bag lunches, water and warm jackets.

## SISKIYOU CHAPTER

Meetings:

April 1, Thursday, Where we are today with the 1973 Endangered Species Act. A presentation by BLM botanist Joan Seevers. The E.S.A. is the only national program to conserve rare plants. This year the act is up for reauthorization. We will take a look at where we are today with the 1973 Act, what has been done and how the reauthorization could change the Act. Slides of the federal candidate species of southwestern Oregon will be shown.

May 6. Dr. Stephen Cross, Department of Biology, SOSC: Riparian Habitat.

All meetings are at 7:30 p.m., in 275 Science Building, SOSC. For further information call Darlene Southworth at 482-6341 or 488-1034.

Wildflower Class

Wayne Rolle, Siskiyou Vice President, will teach a basic botany and plant ecology class through the Personal Enrichment Program in Ashland (class #48). The class will concentrate on the native flora of the Rogue Valley, spending some time on wild edibles and local weeds. The three class sessions will meet on Wednesdays from 7-8:30 p.m. in Taylor Hall at SOSC, Room 020. There will be three field trips (about 4 hours each) to prime wildflower areas in the valley.

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SISKIYOU CHAPTER: WILDFLOWER CLASS, continued

A sample class will be given April 7, regular classes begin April 14. The class limit will be 20 and will cost $16 - one quarter of the fee will be donated to the Siskiyou NPSO Chapter, co-ponsors of the class. For more information call 482-0093.

Field Trips:

8 April: "Planning your Environment." A seminar on landscape planning emphasizing native and drought-resistant species. Offered by Peter Giffen through the Talent-Phoenix Continuing Education Program. 7:30 - 9:30 p.m. Contact the Continuing Education Program for more information.

10 April: Field trip to an Ashland native plant garden by Irving Lord. Meet at 10:00 at 710 North Mountain Ave. (downhill from Siskiyou Blvd., the first drive after Bear Ck.). For more information, call 482-4175.

17 April: Table Rock/Agate Desert Field trip. A day-long outing with the Agate Desert in the morning, a picnic sack lunch, and Table Rock in the afternoon. Led by Ron Kranz, this will be a moderately strenuous walk. Meet at the Ashland Bi-Mart at 9:00 or Touvelle County Park at 9:30. Call 482-9120 for more information.

24 April: Car-pool to the Glide Wildflower Show. This annual event features native plants from all over southern Oregon and is well worth the drive. Photographers are welcomed. Meet at the Ashland Bi-Mart at 7:00 a.m., or the Medford K-Mart at 7:30. For more information on car-pooling call 770-5519.

25 April: Native plant garden/nursery trip. Rendezvous at the greenhouse near the Science Bldg. at SOSC at 10:00. Peter Giffen will take us on a quick tour of two native plant gardens near SOSC. The group will then head for the Prag's Forest Farms, a native plant nursery in the Applegate Valley, having a picnic lunch en route. This should be an easy day-long outing. For more information, please call 488-0311.

1 May: Kalmiopsis Field Trip. Robert Mansfield will meet us at the Selma Store at 8:00 for a day's hike to the York Creek Botanical Area in the Kalmiopsis Wilderness Area. This moderately strenuous walk will offer an excellent opportunity to see Kalmiopsis leachiana and many other serpentine soil species in blooom. 770-5519 or 476-3334.

8 May: Eight Dollar Mountain Field Trip. As part of the workshop held that weekend, botanists and representatives from the BLM and Forest Service will lead a visit to various habitats on the mountain. Hopefully, it will be peak flowering time in the bogs and dry areas. There will be opportunities to visit sites with easy access and sites requiring more strenuous walking. Carpools will form in front of SOSC Science Building in Ashland at 8:00 a.m., and at the Albertson & M/Ward's parking lot off Exit #48 of I5 in Grants Pass at 9:00 a.m. For more information, contact Cynthia Roberts 482-0899.

29 May. NPSO State Field Trip.

NEWS RELEASE

The Siskiyou Chapter Conservation Committee will begin field surveys of the Agate Desert Area in central Jackson County to identify and preserve a typical and unique plant community. The field surveys will be conducted on the following Saturdays:

27 March, 10 April, 24 April, 8 May, 22 May, and 5 June.

The field surveys will culminate in a written report to be displayed at the Siskitou Chapter's booth at Ashland's 4th of July celebration. All people interested in participating on one or more Saturdays should contact Ron Kranz, 338 B Street, Ashland, Oregon 97520, 482-9120.

CONFLICT OF RESOURCES ON EIGHT DOLLAR MTN.

Eight Dollar Mountai n is in the Illinois River Valley, symmetrical, 4,000 feet hight, its base encircled by the Illinois River and Deer Creek. It is located near Selma in Josephine County, Oregon, between the main ridges of the Siskiyou Mountains. The mountain has long been noted for its unique values - scenic, geologic, botanical.

The main substrate types found on Eight Dollar Mountain are peridotite and its meta-morphic derivative, serpentine. It is the mountain's geological uniqueness and the "rain shadow effect" that have contributed to the unusual and diverse plant communities and species. It is Oregon's most valuable botanical resource, having more candidates for the federal list of endangered and threatened plants than any other place in the state. These plants are found in the dry out-croppings and the many seeps and bogs on the mountain. Botanically, the mountain has historical value as the type locality of several species, e.g. Hastingsia bracteosa, a candidate for Federal listing. Pioneer botanists, such as Thomas Howell have explored the flora of the mountain in the late 1800's. Its serpentine plant communities have been visited and studied by many biology students, recreational groups, and botanists from the Pacific Northwest and all portions of the United States.

The same soil conditions that create unique plant habitats are also typically high in magnesium, cobalt, chromium, and nickel. The presence of these minerals constitutes the area as being a prime mineral resource, and has led to an interest in mining exploration and possibly long term mining activities on Eight Dollar Mountain.

Lands on the mountain are owned by the Bureau of Land Management, the Siskiyou National Forest, the State of Oregon, Josephine County, and private parties. The Nature Conservancy has identified that portion of the mountain not presently in public ownership as one of its top fifteen "Oregon Critical Areas Program" sites, specifically because of its botanical value. A citizen's group, Josephine's Environment Matters, has formed to oppose strip mining in the Illinois Valley and has studied various issues surrounding the proposed mining of Eight Dollar

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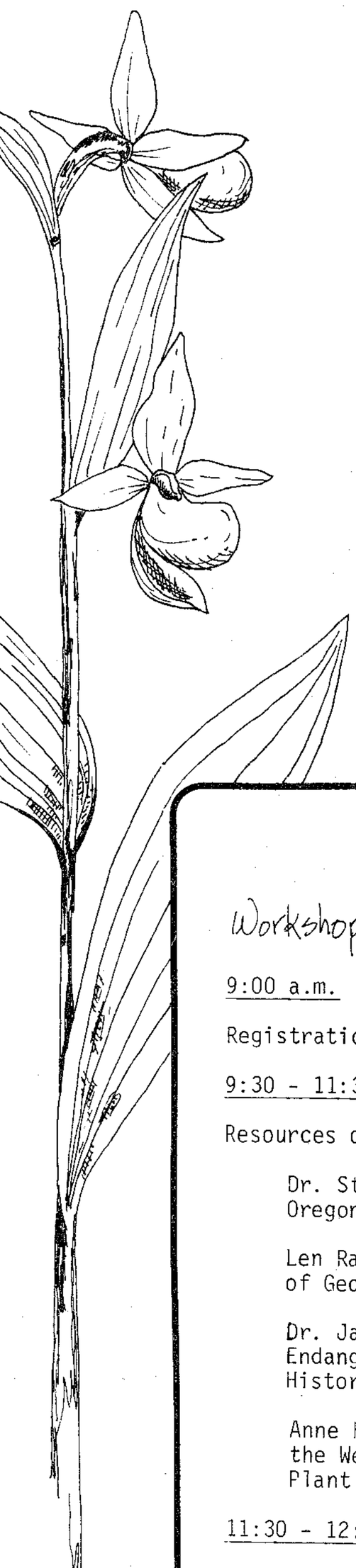


# EIGHT DOLLAR MOUNTAIN

## A BOTANICAL AND MINERAL RESOURCE

...a workshop and field trip...

- MAY 8th and 9th
- Southern Oregon State College
- Ashland, Oregon
- Science Building, Room 118

• EIGHT DOLLAR MOUNTAIN, located at the northern end of the Illinois Valley in southern Oregon, supports unique serpentine plant communities and contains valuable minerals. The workshop will examine the issues of mining strategic minerals, while maintaining critical habitats of rare and endemic plants.

## AGENDA

### Workshop - May 8th

9:00 a.m.

Registration and field trip signup.

9:30 - 11:30 a m.

Resources of Eight Dollar Mountain

Dr. Stan Cook, Professor of Biology, University of Oregon. Ecological Relationships.

Len Ramp, Resident Geologist, State of Oregon, Dep't. of Geology and Mineral Industries. Mineral Resources.

Dr. Janet Hohn, Staff Botanist, U.S. Fish and Wildlife, Endangered Species Office. Botanical Resources and History, Endangered Plants.

Anne Kowalishen, Chairperson of the Association of the Western Native Plant Society. Federal and State Plant Protection Legislation.

11:30 - 12:15 p.m.

Panel discussion

12:15 - 1:30 p.m.

Lunch

1:30 - 1:50 p.m.

Pat Kelly, Attorney at Law, Director of Southern Oregon Resource Alliance, a citizen's organization. Local Economic Impact.

1:50 - 3:00 p.m.

Federal agency management alternatives

Representatives of:

Bureau of Land Management, Medford District
U.S. Forest Service, Siskiyou National Forest

3:00 - 4:30 p.m.

Discussion

### Field Trip - May 9th

To Eight Dollar Mountain with knowledgeable leaders. Maps of the area will be available. Please bring water and lunch. Carpools will form: in Ashland- at S.O.S.C. Science Building at 8:00 a.m. in Grants Pass- at the Albertson's parking lot off I-5 exit #48 at 9:00 a.m.

Please register at workshop. For more information contact:
Cynthia Roberts 482-0899
Barry Goldfarb 488-0533

cjroth

• Sponsored by the Native Plant Society of Oregon, Siskiyou Chapter •

EIGHT DOLLAR MOUNTAIN, continued

Mountain. Another citizen's group, Southern Oregon Resource Alliance (SORA) has supported timber and mining development in the area. The Heritage Conservation and Recreation Service has nominated the eastern half of the mountain as a "Natural Landmark" because of the rare plants.

The BLM's 1260 acre portion on the east side has met the criteria for an ACEC (Area of Critical Environmental Concern) nomination because of its large number of rare plants and its botanical history. If through the land use planning process, the land managed by the BLM becomes an ACEC, special management would protect the area's unique botanical values. The Siskiyou National Forest is currently assessing its management options for the forest lands on Eight Dollar Mountain.

Inventories of Botanical and mineral resources will be inventoried on BLM lands in 1982.

The federal planning process will consider trade-offs between plant and mineral resources, attempting to define which resource uses are compatible within the area. The agencies will assess the nature of environmental impact of managment alternatives. The assessment will include public input.

The Siskiyou Chapter will sponsor a workshop on May 8th and 9th, in which the issues will be looked at. The program on Saturday will include speakers on the botanical and mineral resources in conflict there. Representatives from the federal agencies will explain the options available for management practices. Registration will be held at 9:00 a.m. at SOSC Science Building, Ashland.

A field trip to the mountain will follow on Sunday. Refer to Siskiyou Field Trip notes for information. Additional details on the workshop will be available in the May Bulletin and through your Chapter president.

## WHY PROTECT ECOSYSTEMS?

"To keep every cog and wheel is the first precaution of intelligent tinkering," said Aldo Leopold. An ecosystem is all the plants and animals (cogs and wheels) in a part of the landscape, plus their environment. In the same way that a machine is an organized structure of cogs and wheels, an ecosystem has structure: a characteristic group of plants and animals, certain food production and transfer paths, and character-nutrient cycles. The most persistent engineer, if confronted with a huge pile of wheels and cogs from all the dismantled machinery of the world, could never reconstruct the machines, particularly if he was without models, plans, or examples. The second rule of intelligent tinkering should be to keep a fully assembled example available for study. We need to not only protect the plants and animals, but also the ways in which they are organized into ecosystems. Land managers, with the good intention of repairing past damage, cannot know what needs to be done without knowing how the system used to look and function.

From the Colorado Native Plant Society Newsletter Jan-Mar 1982.

## PUBLICATIONS OF INTEREST

Endangered Plant Species of the World and their Endangered Habitats: A Compilation of the Literature. $3.50, available from the New York Botanical Garden, Publications Office, Bronx, NY 10458. This is a comprehensive bibliography of literature up to 1978. For 10¢ a page, the publisher will send reproducations of articles included in this bibliography.

An Illustrated Guide to the Endangered, Threatened, and Sensitive Vascular Plants of Washington, 1981, 334 p. Washington Natural Heritage Program; 3111 Seminar Building (SE 3109); The Evergreen State College, Olympia, WA 98505, $6.00, including postage.

The "Illustrated Guide" expands on information for species listed in "Endangered and Threatened and Sensitive Plants of Washington," distributed by the Washington Natural Heritage Program.

By May, 1982, a new list of "Endangered, Threatened and Sensitive Vascular Plants in Washington" will be distributed by the Heritage Program. This list will supersede all previous lists including the "Illustrated Guide." Please include $1.00 for handling and postage when ordering.

The "Illustrated Guide" will still serve as a reference to the 1982 list, although there will be some changes in species listed and their respective status categories.

## A BOTANICAL NAME FOR THE PHANTOM ORCHID: EBUROPHYTON OR CEPHALANTHERA?

The Phantom Orchid, that unique, almost completely white, saprophytic plant of the western coastal states and Idaho, was given the botanical name of Chloraea austinae in 1876 by Asa Gray. The specific epithet austinae was to honor Rebecca Austin of northern California who did early research over several decades on Darlingtonia californica, sending detailed notes to Dr. Gray at Harvard. By international botanical rules, the spelling of the specific name of this plant later was corrected to austiniae (as in Hitchcock).

One year after Dr. Gray had named this orchid, Heinrich Reichenbach of Germany independently described it as a new species of the genus Cephalanthera. He called it C. oregana, but since this name was published later than the one by Dr. Gray, it could not be used. In 1900 Amos Heller also concluded that it was a Cephalanthera, making the right binomial combination, C. austinae (later austiniae). "Cephalanthera" is derived from two Greek words meaning "head" and "anther," referring to the terminal position of the anther on the column. Four years later Heller wrote (p. 49) that Cephalanthera "so far as I know is composed of ordinary terrestrial herbs with green chlorophyll, ample leaves, and flowers in which red predominates." He decided that the Phantom Orchid, because of its "peculiar leafless and parasitic habit," should be in a separate genus, and coined the generic name Eburophyton, which means "ivory plant."

At present, nearly eighty years later, both generic names, Cephalanthera and Eburophyton, have their adherents. The western North American botanists Morton Peck, LeRoy Abrams, Philip Munz and Leo Hitchcock used the generic epithet Euburophyton for the Phantom Orchid in their botanical volumes, while eastern orchid specialists Donovan Correll and Carlyle Luer have used Cephalanthera.

### The Problem

If the Phantom Orchid is a Cephalanthera, it would be the only saprophytic species in a genus of otherwise green-leaved plants. It would also be in geographic isolation, since no other Cephalanthera species is found in our Western Hemisphere. These factors are probably very important in the decisions of some botanists to call this orchid Eburophyton. It then would stand as the only species in its genus.

However, Correll declared in his 1950 publication (p. 134) that the Phantom Orchid "is florally inseparable from the species comprising the genus Cephalanthera," and that "its saprophytic habit and geographic isolation ... do not appear to me to be sufficiently strong to sustain a separate genus."

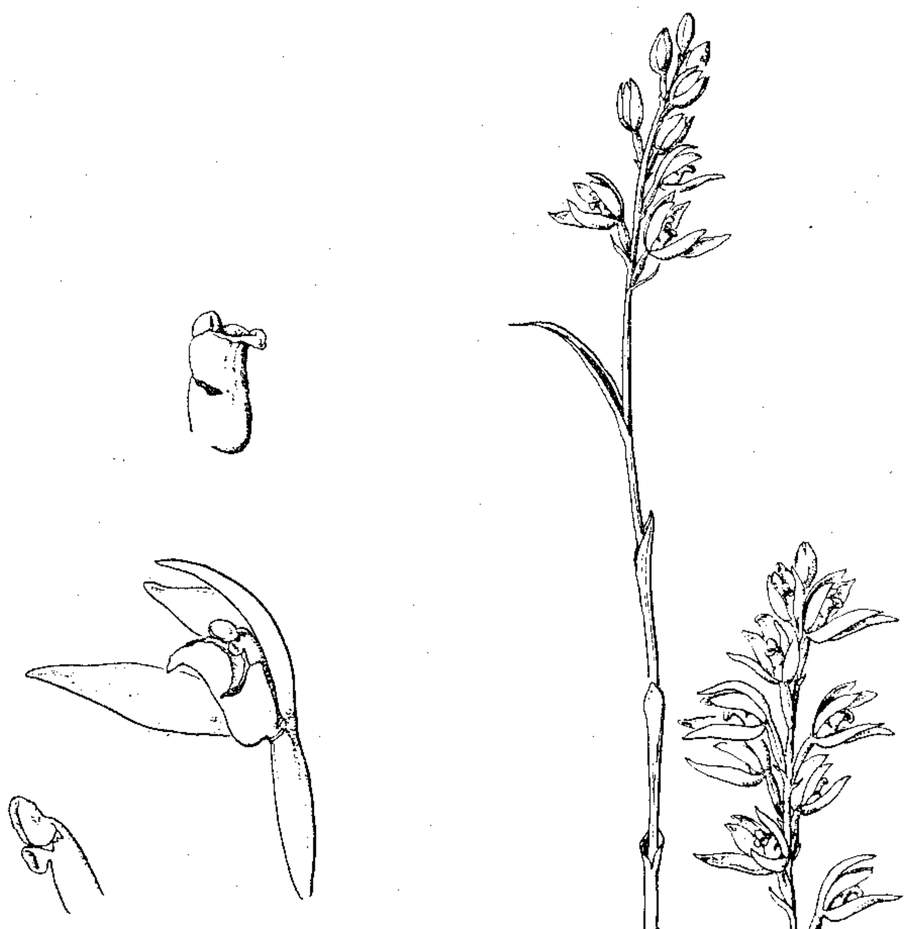


Illustration by J.R.Janish, from Hitchcock et. al., Vascular Plants of the Pacific Northwest



Eburophyton austiniae

## A Comparison

There are three species of Cephalanthera in Great Britain. It was a privilege for me one early June day to see two different species, both with white flowers, growing side by side. This rare occurrence was in Westbury Wood, a preserve in Hampshire, southern England. One was the decidedly uncommon Sword-leaved Cephalanthera (C. longifolia, earlier known as C. ensifolia) and the other was the more common Large White Cephalanthera (C. damasonium), growing in the beech woods. The third species is the Red Cephalanthera (C. rubra).

It is indeed surprising how closely the flowers of our Phantom Orchid and those of C. longifolia resemble each other in the illustrations from Hitchcock and the Swiss botanist, Henry Correvon, which accompany this article.

In a comparison of the all-white Phantom Orchid (20-50 cm tall) with C. longifolia (15-60 cm tall), which is a green-leaved plant with only the flowers white, we find that the flowers of both plants share the following characteristics: several sessile flowers in a terminal raceme; flowers white except for the yellow ridges on the lip (ovary is green in C. longifolia); sepals and petals seemingly of a similar shape and relative lengths; a two-parted lip, the lower part saccate with its lateral lobes curving up the sides of the column, and the upper part (with yellow fleshy ridges) either protruding forward, or when parallel with the column, forming a more or less tubular space; and a hinged anther with two cells, each with two linear pollinia, situated on top of the column above the oval concave stigma.

## Pollination

The British botanist, Victor Summerhayes, the former orchidologist of Kew Gardens, writes (p. 124) that Cephalanthera "may be looked upon as one of the most primitive types of single stamened orchids as regards the vegetative characters, the floral structure, and the method of pollination." The pollination method is peculiar. It is described in both Summerhayes (p. 124) and Proctor (p. 235). There is no rostellum on the column. From Hitchcock (p. 835) we learn that Eburophyton also lacks a rostellum.

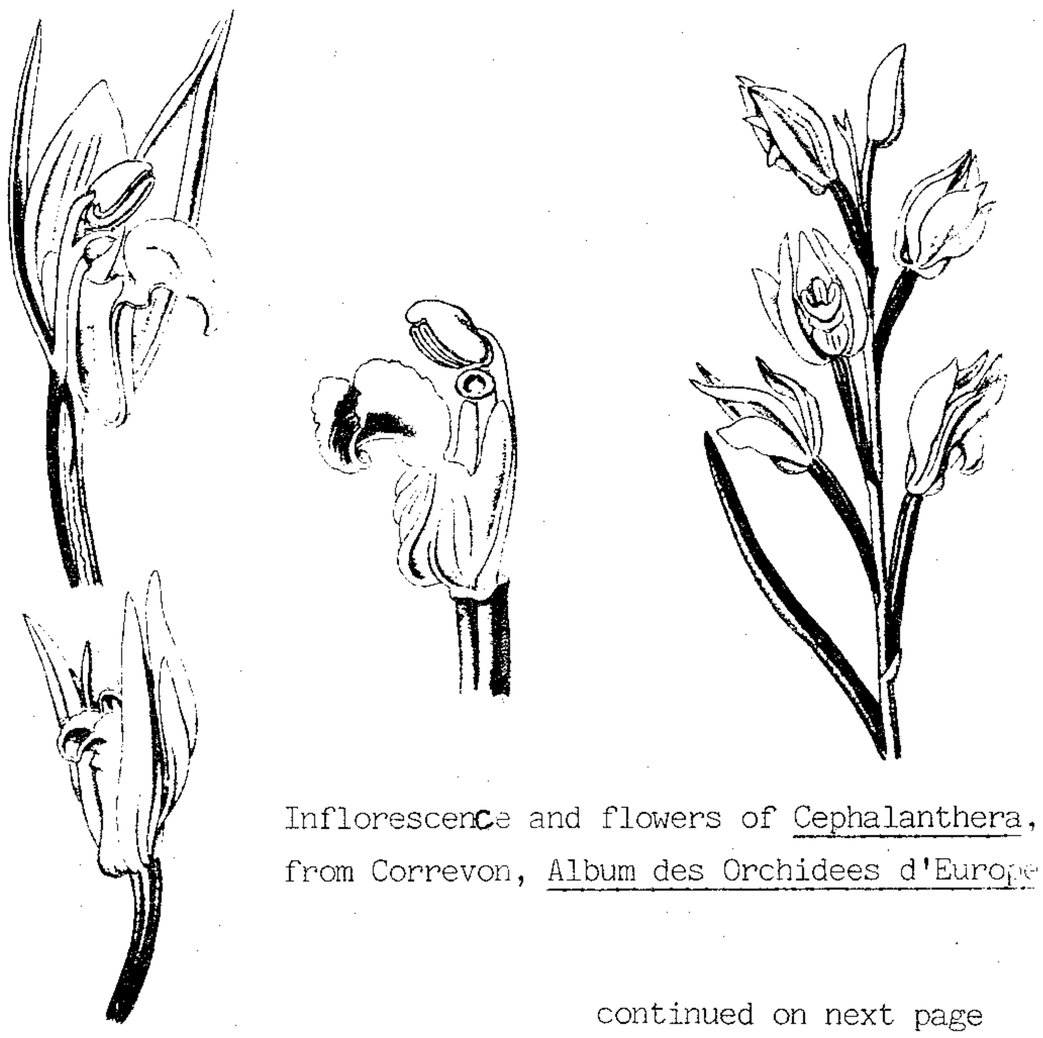
Most orchids with one fertile anther have a rostellum, an important function of which is to glue, by various means, the pollen-masses to the visiting insect-pollinators. Instead, in Cephalanthera, the ordinary stigma is covered with a viscid secretion. When an insect, probably a small bee, enters the narrow area between the lip and column it acquires this secretion on its body. When the insect exits, it brushes against the protruding pollinia which adhere to its body and are carried to the sticky stigma of another flower. Therefore, in Cephalanthera, the stigma provides the means for attachment of the pollen to the pollinating insect.

Some species of Cephalanthera, including C. longifolia, have an anther with an elastic hinge, so that after being pushed back by an insect, it always returns to its previous place, and thus the pollinia are in their protruding position again.

## Mycorrhizal Fungi

Every orchid plant during its early years (length of period varying with the species) requires a symbiotic relationship with a mycorrhizal fungus in order to germinate and to develop roots for obtaining nourishment from the organic matter in the soil. Saprophytic plants like the Phantom Orchid, since they never develop any green leaves, must always continue this relationship. Certain orchid species with green leaves always remain to some extent dependent on their fungus. Cephalanthera longifolia has some thick roots which are quite free from fungal infection and also some thin, wiry ones which are heavily infected. Luer says (p. 71) that some of the 15 species of Cephalanthera "spend most of their lives underground, living in symbiosis with a mycorrhizal fungus until optimal conditions occur for producing a leafy flowering stem."

According to Summerhayes (p. 16), one of "the most extreme cases among green plants" of this fungal dependency is the very rare and elusive C. rubra. He writes (p. 134) that "should the wood in which the plant is growing become so overgrown or dense that little light can reach the leaves, these become reduced in size or even disappear altogether. If fact, the plant behaves temporarily as a saprophyte ... and is thus comparable



Inflorescence and flowers of Cephalanthera, from Correvon, Album des Orchidees d'Europe

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with the Bird's Nest Orchid (Neottia nidus-avis) and the coral-roots." The Phantom Orchid may not be so terribly different from these Cephalanthera species in this regard. Luer calls it "the only totally saprophytic" Cephalanthera.

## Geographic Isolation

Cephalanthera longifolia, though nowhere common, has a wide range in the British Isles, including western Ireland. Outside Great Britain it has much the widest distribution of all species of the genus. It is found throughout Europe, in Morocco and Algeria in northern Africa, and eastward to western Siberia, western China and the Himalaya Mountains.

The isolation of our Phantom Orchid in the western United States from Cephalanthera in Eurasia and northern Africa may not be as important an obstacle, as once was thought, to there possibly having been an earlier common source for their close genetic relationship, especially in view of recent ideas about the history of the world distribution of vascular plants.

I believe that Correll and Luer were correct in concluding that the Phantom Orchid is a Cephalanthera, namely, C. austiniae (Gray) Heller. What do you think?

## Acknowledgement

Thanks to Dr. Kenton Chambers, Prof. of Botany and Curator of the Oregon State University Herbarium, for help with the botanical nomenclature of the first two paragraphs.

## Literature Cited

Correll, Donovan. Native Orchids of North America. Waltham, Mass: Chronica Botanica. 1950.

Correvon, Henry. Album Orchidées d'Europe. Genève, 1923.

Heller, Amos. Muhlenbergia 1:49. 1904.

Hitchcock, C. Leo, et al. Vascular Plants of the Pacific Northwest, Part 1. Seattle: University of Washington Press. 1977

Luer, Carlyle A. The Native Orchids of the United States and Canada. New York Botanical Garden, NY. 1975

Proctor, Michael and Peter Yeo. The Pollination of Flowers. New York: Taplinger Publishing Co. 1972.

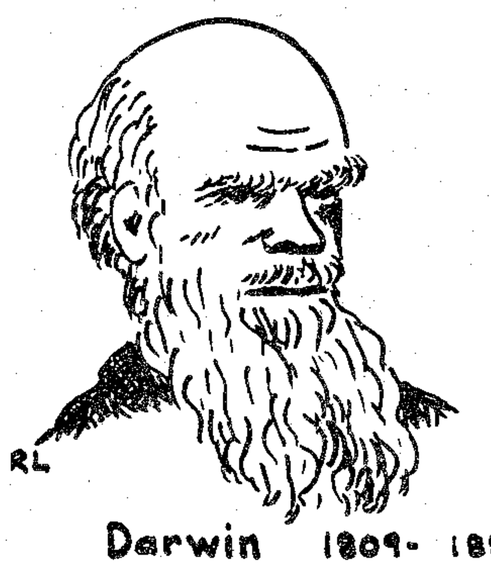
Summerhayes, V.S. Wild Orchids of Britain. London: Collins. 1951. (note that C. longifolia is listed by mistake in the Index as C. longiflora.)

Celeste C. Holloway
Portland Chapter

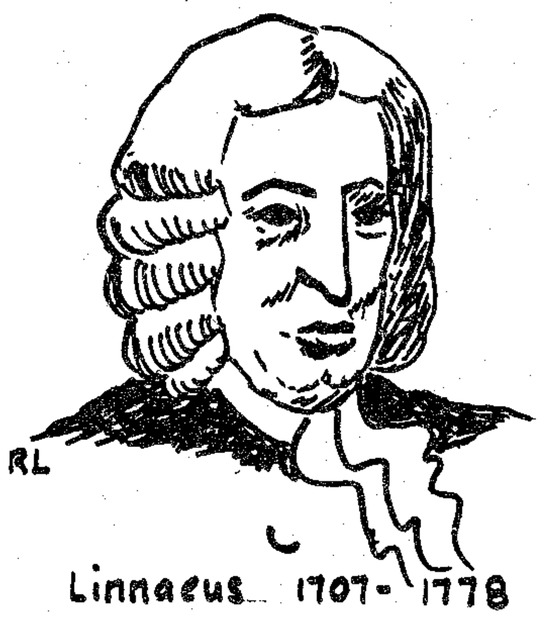
# DARWIN AND LINNAEUS
## ANNIVERSARY YEARS

This year, 1982, marks the 100th anniversary of the death of Charles Darwin who died on April 19, 1882. Four years ago the scientific community noted the 200th anniversary of the death of Carl Linnaeus, the great Swedish systematist.

It is interesting that these two great figures in the history of biology died almost precisely 100 years apart. And there were other parallels in their lives as well: They were born approximately 100 years apart also, Darwin in 1809 (on the same day as Abraham Lincoln, by the way!) and Linnaeus in 1707. Both lived at times of relative peace in Europe but turmoil in America, Linnaeus during the Revolution and Darwin during our Civil War. Both traveled as young men, Darwin on the Beagle and Linnaeus through Lapland. Both later married and had relatively large families (Linneaus had 5 children, Darwin 7). Both loved the out-of-doors and nature. Darwin walked daily in Kent countryside and Linneaus had a much-loved country home at Hammarby about 6 miles from the University of Uppsala, Sweden. And both accomplished prodigious quantitites of work during their approximately 3 score years and 10. Darwin authored over a dozen major books and countless papers and pamphlets. The Origin of Species, which changed the history of thought in the western world appeared in 1859. Linnaeus also produced literally hundreds of dissertations and papers in addition to his great works of classification Species Plantarum, 1853, Genera Plantarum, 1754, and Systema Naturae, 1758. And finally, both men were careful and dedicated observers of nature.




Darwin 1809- 1882




Linnaeus 1707- 1778

Despite these obvious parallels, it seems to be the case that the two men differed markedly in basic methods of thought. Linnaeus was the great classifier and the descriptions that have come down to us from 200 years ago show a man in whom orderliness was the outstanding characteristic. Linnaeus was much taken with the sexual organs of flowers -- counting stamens and pistils in every species, and using the similarities he found to establish his classification system. We know him best today as the father of our binomial system of nomenclature.

Darwin was interested in classification too. He worked for years on relationships in barnacles. But primarily Darwin was a brilliant theoretician. Also, for his time, he was a superb ecologist, intuitively perceiving relationships between organisms. It is unnecessary here to belabor the point that one of Darwin's great strengths lay in his ability to frame hypotheses and to marshal supporting evidence. The Origin stands as testimony to this. Of course, Darwin's major

continued on next page

DARWIN AND LINNAEUS, continued

theories became instantly controversial during his lifetime and remain so to this day. No similar controversy surrounds the Linnaean system of classification. However, both these giants made unparalleled contributions to our field.

One hundred years apart -- alike yet different -- Linnaeus and Darwin. Could we imagine modern biology without either one?

Rhoda Love
Emerald Chapter

EARLY EXPERIENCES OF A BOTANIST, by L.F. Henderson

continued from March 1982 Bulletin

- Section 7 -

Another day's tramp and we struck the canyon of the Boise River. This was remarkably interesting geologically, but to the way-farer it was a horror. The river occupied a cleft in the great rock-plain, with almost vertical walls, and with innumerable small vertical-walled canyons going into the larger one. So all day long it was either try 50° to 70° Indian trails across these lateral canyons or go long distances up them in order to cross them near their heads. Add to this discomfort a blazing sun and its reflection from the often bare basalt, with never ending hordes of rattlesnakes, and we passed a day as if picked out for us from Dante's Inferno! Though no water was to be seen for many miles save in the Boise River far below us, the snakes seemed to flourish, and of course were always in the most dangerous places to the passer-by--in the trail near and obscured by bushes. So to save our own skins we tried driving the pack horses ahead, but after the first snake or two these animals rebelled, and whenever the trail ran through or near a clump of bushes, they circled it by a wide arc, while the one horseman followed and drove them back into the trail. So finally cutting a huge club, I told Kirtley to look after the three horses, and I would attend to the rattlesnakes. And let me tell you, this was often a ticklish business, since the trail was often nearly covered by dry, tall grass or small shrubs. Always slowing up and looking carefully along the trail near the bushes, I dispatched snake after snake, and threw them out of the trail, since even a dying rattler will bite, and we did not wish to endanger any of our precious horses. After miles of this I uttered a shout of joy, for we came suddenly upon the well-marked old "Emigrant Wagon Trail," cross the Boise where it crossed a ford, and followed it for miles into Big Camas Prairie, and to the little town of Soldier.

Though we had not yet reached the territory assigned us in Washington, we determined to turn right off our road and visit Soldier Mountain, which towered above the prairie to the left and still had some snow on its crest and in its canyons. This proved a very prolific botanical trip, as we gathered dozens and dozens of flowers we had never seen before, a few new. Returning to Soldier the next day, we then took the highway for Hailey. About noon we stopped to visit a little quartz gold mine, where we saw the stamps turning out the prettiest lot of gold that it had ever been my good fortune to see. Late that hot afternoon we reached Hailey, on the beautiful, sparkling Wood River. As we were too tired even to fish for the abundant trout in this stream, we went to a hotel for a good bed, and, we hoped, a platter of trout. Before breakfast I had asked the lady who owned and ran the hotel if she couldn't cook us some trout, and she said with a smile, "I can." When we were seated with many working men at the table, to our delight she brought on the largest platter of trout I ever saw. We helped ourselves bountifully, as we didn't know whether they would ever reach us again, and passed them along. To our great surprise the platter went from one man to another without the loss of a trout, when on reaching the last one, the landlady being out of the room, he remarked with a scowling face, "Great G--, aren't we ever going to be fed on anything but trout in this blank blank burg?"

The next day we passed during the morning the little village of Ketchum and its million-dollar building for reducing ores, mainly silver. As the Demonitization of Silver Law had just been passed, this gigantic plant had "never run a day" as the watchman told us. And now the most beautiful country began to unfold itself I think I ever saw. We followed up the Wood River to its source, crossed the divide and soon were going down the headwaters of the Salmon River to Red-Fish Lakes, where we camped two or three days, so enticing the never ending kinds of fish and game for our table as well as abundant flora, eagles, and cranes. The last night here, we camped further down the Salmon River amongst dozens of hot springs, of every degree of temperature from barely lukewarm to nearly boiling. Here, for the first time in my life, I could have caught trout or salmon in the river, and literally thrown them still hooked into hot springs which would have nearly cooked them. In fact my companion nearly parboiled himself in making investigations of their heat with his body. He had jumped into several and said, "I don't call these hot springs, hardly warm-springs," when on jumping into one near which I was standing, he emitted a yell and jumped out with his body a beautiful pink-red.

The next day I found a handsome and peculiar Angelica, which proved new and which afterwards named Angelica roseana for Mr. Rose of the Washington herbarium, returning the compliment for the great coast plant which he had named Angelica hendersonii. This plant was only in flower here, but luckily I found it later in fruit in the foot hills of the Lost River Mountains. Down the beautiful Salmon River the road led us through the placer country of Stanley Basin, Custer, and finally Challis. Here a great surprise awaited us. As we were only about 60 miles from Salmon City, the home of my companion, Charles Kirtley, a letter was awaiting him in the post office. We stopped here while he read it, and while doing this I noticed his face fall into very solemn lines. "Anything wrong with the folks?" I asked. He quietly handed me the letter to read. In it his mother stated that war had been declared between the Indians and the whites in Jackson's Hole, Wyoming, and the Lemhi Indians near Salmon were dancing the war dance and getting ready to join them on the warpath. She begged him, on reaching Challis, to continue right down the Salmon to Salmon City. "Well, Kirtley," I said, "I guess you had better do it, if your mother wishes it." "What are you doing to do?" he asked. "Why, I am going right on and trust to luck. My places for exploration haven't even been reached yet." At this he sprang to his feet, while his fine grey eyes blazed. "What do you take me for? You suppose I am going to let you go on alone, while I sneak out of it? We will both go on, and I will write Mother that we will keep back off the highways as much as possible." He wrote his letter, posted it, and we proceeded.

We stopped that night at a silver-and-gold mine at Dickey, and on again the next morning. In an hour or two we came to a place where we heard a most astonishing story and saw an equally astonishing scene. A tremendous cloud-burst had occurred here the day before, and we found many men strung out along the small canyon for miles, and prodding the new-made mud with long poles. "What are you after?" we asked. "Trying to find a stage-coach," they replied. "The joke's on me," I returned. "No, honestly, we are looking for a stage-coach with mail and express in it. Driver just had time last night to yell to passengers to get out and flee, to cut the traces of the horses and mush them up the steep sides of the canyon, when a ten foot wall of water was down upon them. It caught the coach, sent it rolling down the canyon, and must have covered it with mud, as we can't find it here, and it didn't come down into the flat." Eventually, we heard they found that completely buried coach!

to be continued in April 1982 Bulletin

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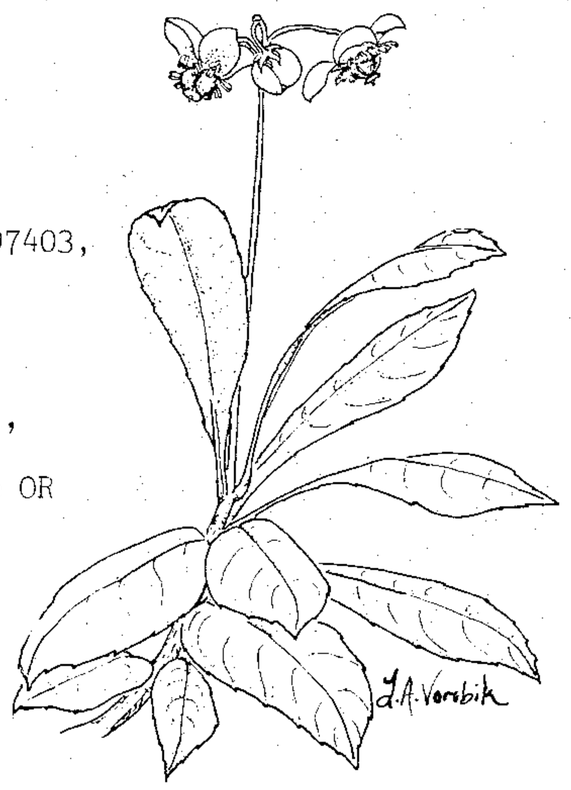


Chimophila menziesii

little prince's pine