

Bulletin of the Native Plant Society of Oregon

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

VOLUME 26 NUMBER 10

OCTOBER 1993

ISSN 0884-599

New Editor

A new Bulletin editor is at work. His name, address and telephone number are on the inside of the back leaf. He welcomes suggestions -- and comments

Chapter News

Blue Mountain

For information, call Chapter President Jerry Baker (566-3381).

Corvallis

Oct. 12, Tues. **Meeting:** 7:30 P.M., room 2082, Cordley Hall, OSU campus. Loren Russell to speak on "Gardening with natives." Call Keli Kuykendall, 758-8409 for information.

Emerald

Oct. 16, Sat. **Field Trip:** 8:30 A.M. Meet at South Eugene High School parking lot, 20th and Hil yard for riparian and stream restoration with Charley Dewberry. Bring lunch, and waders if you want to walk in the stream. Alternate meeting place: Mile post 15, on road to Mapleton, 10 A.M. Call Anna Moeckler, 485-0891.

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. 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.

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. Each group using wilderness areas should be no larger than 12.

Oct. 23, Sat. **Work Party:** 10 A.M. Morse Ranch ivy pull and blackberry removal. Bring shovels, gloves, loppers, pruners, water and lunch. Dress for rain or shine. Meet at picnic area. Your work pays for our use of the Park house for meetings.

Oct. 25, Mon. **Meeting:** 7 P.M. at Morse Ranch Park. Advances in biological control of noxious weeds. Slide show and discussion with Glenn Miller, Oregon Dept. of Agr. weed specialist. Directions: From downtown Eugene, take Willamette St. south to Crest Dr. (right through "Y" for Donald, between 32nd and 33rd Aves. E.) Turn right (W) on Crest and proceed about 4 blocks. Turn right into Morse Ranch parking lot. Walk east to the white farmhouse.

Nov. 13, Sat. **Field Trip:** Mushroom identification and collecting trip with Bruce Newhouse. Meet South Eugene H.S. parking lot. Bring lunch. Carpool to special Cascades mushroom location.

High Desert

Oct. 2, Sat. **Field Trip:** 8:30 A.M. Meet at Juniper parking lot, for trip to Newberry meadow. Hel clear lodgepole saplings from 3 species of grape fern. Bring work gloves, hand saw, lunch. Dress for changing mountain weather. No hiking required.

Oct. 26, Tues. **Meeting:** .7:30 P.M. Central Oregon Environmental Center, 16 NW Kansas. Bring your favorite summer slides of wild flowers to share.. ..

Mid-Columbia

Oct. 6, Wed. **Meeting:** 7:30 P.M., Mosier School. Peter Frensen, Monument Scientist, Mt. St. Helen's National Monument, will give a slide-talk on the recovery of the Mt. St. Helen's ecosystem following the 1980 eruption.

North Coast

Oct. 26, Tues. **Meeting:** .7 P.M. in Carl Rawe Meeting Room, Tillamook P.U.D., 1115 Pacific, Tillamook. Call Jim Winslow, 842-4131, for more information.

Portland

Oct. 12, Tues. **Meeting:** 7 P.M. at First Methodist Church, 2838 SW Jefferson St., Portland. Jack Broome, a founder of The Wetlands Conservancy, will speak on: "Why we should preserve wetlands. The role of plants."

Siskiyou

Oct. 16, Sat. **Field Trip:** 9 A.M. Hike up Nabob Ridge in the high Siskiyou Crest, Applegate Ranger District to see Pacific Silver Fir, led by Gene Parker, conifer enthusiast. Meet at Star Ranger Station. Moderately strenuous, all day trip

Oct. 21, Thurs. **Meeting:** 7:30 Room 171, Science Building, SOSOC. Randy Frick, Fish Biologist, Siskiyou National Forest, will speak on restoring riparian areas.

South Coast

Oct. 2, Sat. **Field Trip:** To see Brummet Fir, world's largest coast Douglas fir. Moderate half mile walk through nice stand of old growth. Meet 9 A.M., Coos Bay

Chamber of Commerce, or Fairview at 10 A.M. Bring lunch, drink, for all day.
Call Bruce Rittenhouse for information at 756-0100 (W) or 888-9328 (H).

Umpqua Valley

Oct. 14, Thurs. **Meeting:** 7 P.M. in room 311 of the Douglas County Courthouse. For information call Ted Schattenkerk at 679-6953...

Willamette Valley

Oct. 18, Mon. **Meeting:** 7 P.M. in room 225 of First United Methodist Church, 600 State St., Salem. Ed Alverson will speak on nature conservancies of Oregon. For more information call Mark Quistad, mornings, at 399-9680...

Wm. Cusick

For information call Bob Ottersberg at 963-9660. ...

Welcome to New Members Who Joined Between July 17th and September 4th 1993

Blue Mountain

Albee, Susan J.
Rouse, Ruth M.
Yanskey, Kari

Mid Columbia

Pochna, Melissa

Portland

Delcambre, Carla
Evans, Steve
Klahr, Betty
Lutz, Shirley H.
Thomas, Olivia
Topinka, Lorie
Weirather, Linda

Corvallis

Bruner, Howard
Gordon, C. Anthony
Moffatt, Bruce
Nielsen, Roger & Elizabeth & Karl
Rainsford, Diane
Wolfe, Gordon & Marti

Siskiyou

Rock, Phyllis
Widmer, Donna

Emerald

Berg, Charlie
Merrick, Kathi

South Coast

Bakke, Paul
Petersen, Dorthea
Whitehead, Tom

High Desert

Ashwill, Mel
Davidson, Bruce & Irene
McKay, Michele
Vail, Barbara

Willamette Valley

Myers, Ed

Observations on the Pollination of Silvery Phacelia

This summer the BLM Coos Bay District participated in the Apprenticeships in Science and Engineering (ASE) program put on by the Saturday Academy. This program places advanced, highly motivated high school students in the workplace with someone working in the science or engineering fields. Each student works with a mentor, completes a project, and presents the results at an end of the summer symposium in Salem.

The Coos Bay District had eight students this summer working in the fields of wildlife biology, fisheries, hydrology, archaeology and botany. Brian Kiffe from North Bend High School worked with District Botanist Bruce Rittenhouse. The project that Brian did was titled "Observations of the pollination of silvery phacelia" (*Phacelia argentea*), a coastal endemic to southern Oregon and northern California.

In May Brian excluded 25 inflorescences to prevent insect pollination, and randomly selected another 25 to be left available for the pollinators at three study sites along the southern Oregon coast (New River, Sister's Rock, Ophir Dunes). Observations were made on types of pollinators, their behavior, and the weather conditions. All potential pollinators were collected and identified by Dr. Gary Parsons, Department of Entomology, Oregon State University. When the inflorescences finished flowering, they were "harvested." Brian counted the number of flowers and calculated the per cent of fruits which produced viable seed for both excluded and non-excluded inflorescences (a very tedious task).

His results indicate that silvery phacelia does require insects for pollination, as up to 40% of the non-excluded fruits produced seeds while less than 3% of the excluded did so. The seeds produced in the excluded inflorescences may have resulted from the exerted stamens and stigmas being outside the netting, or insects such as ants crawling under the bags (which Brian did observe).

The primary pollinators appear to be leafcutter bees, *Megachilidae: Anthidium palliventre*, and bumblebees, *Bombicidae: bombus sp.* at New

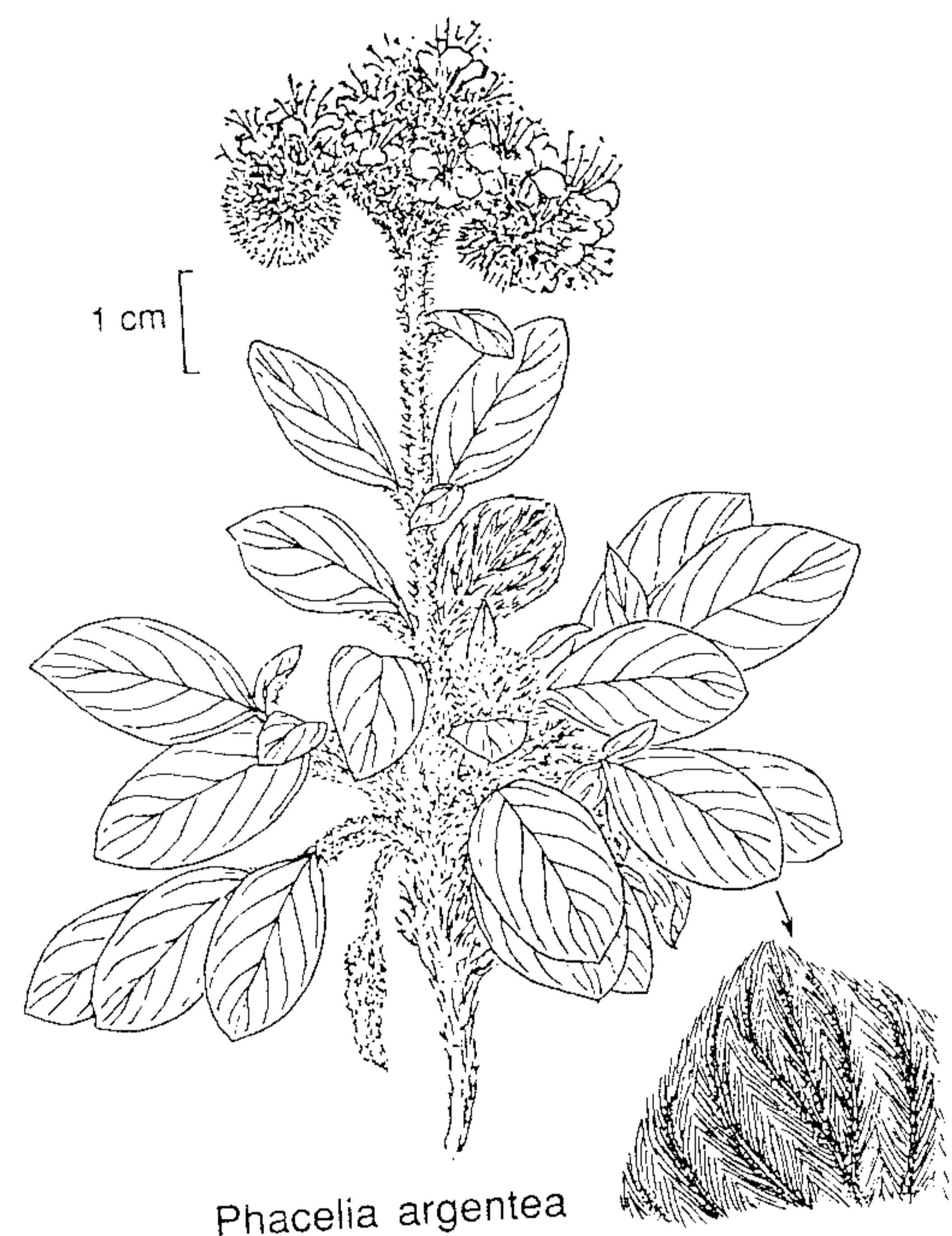
River and Ophir Dunes (both native dune communities), and at Sister's Rock (a coastal headland) bumblebees and honeybees (*Apidae: Apis mellifera*). Other potential pollinators include ants (*Formicidae: Formica sp.*), and a small beetle (species unidentified). These two insects are probably too small to be effective pollinators but may accidentally pollinate some flowers.

The leaf cutter bee is endemic to the coastal dunes ranging from southern California to British Columbia and seems to utilize the species in the *Phacelia* genus. The females are the primary pollinators, foraging for pollen to line their burrows and feed developing larvae.

The ASE program was a very positive program for both students and the BLM, and I would recommend it for other governmental agencies and businesses in the science and engineering fields.

—Bruce Rittenhouse

District Botanist, Coos Bay, BLM District



Phacelia argentea

The Jepson manual : higher plants of California

Some More New Names for Oregon Plants

In volume two of our Society's journal, Kalmiopsis (1992) I discussed some recent taxonomic changes affecting the names of various well-known Oregon plants. I mentioned there that the then-anticipated new book, The Jepson Manual, Higher Plants of California might well introduce further changes. The book has now appeared, and it is indeed an excellent (and massive) reference work which will be extremely useful to botanists in Oregon, particularly those working in the southwestern counties bordering California. Close to 200 authors wrote taxonomic treatments for the book, and although edited with a firm hand, their contributions represent diverse opinions as to how to define and delimit plant genera and species. Some generic treatments lean towards finely divided and morphologically coherent taxa (often called "splitting") and others favor more comprehensive and variable taxa (so-called "lumping"). When the concepts used by particular Jepson Manual authors differ from those used in standard referenced for the Oregon flora, new and unfamiliar plant names may result.

Taxonomic decisions that change long-established plant names should be based, one hopes, on solid scientific research -- not merely on subjective opinion. The Missouri Botanical Garden in St. Louis has for many years been as center for research on the systematics of family *Onagraceae* (evening-primrose family). Under the direction of Dr. Peter Raven, a succession of detailed studies have clarified evolutionary patterns in the family, and this has led to taxonomic changes involving "splitting" of some genera (e.g. separating *Camissonia* from *Oenothera*) and "lumping" of others (e.g. *Zauschneria* joined with *Epilobium*). The latest such change appearing in The Jepson Manual and published in the journal, Phytologia (vol. 73, pgs. 456-459, 1992), is the merging of the genus *Boisduvalia* with *Epilobium*.

There are four species of *Boisduvalia* in Oregon; the main key differences from *Epilobium* are that their seeds lack a tuft of hairs (a coma, present in *Epilobium*), their stems have a peeling epidermis, and their leaves are opposite only near the stem-base while alternate higher up. Dr. Raven's research group has discovered that these differences

must have arisen independently in ancestral species of *Epilobium*, and hence that *Boisduvalia* belongs within the latter genus, not separate from it. The old and new names for the Oregon species are as follows:

Boisduvalia densiflora becomes *Epilobium densiflorum* (Lindl.) Hoch & Raven.

Boisduvalia glabella becomes *Epilobium pygmaeum* (Speng.) Hoch & Raven.

Boisduvalia macrantha becomes *Epilobium pallidum* (Eastw.) Hoch & Raven.

Boisduvalia stricta becomes *Epilobium torreyi* (Wats.) Hoch & Raven.

A longstanding generic problem in family *Gentianaceae* has been reawakened by the treatment of *Frasera* and *Swertia* in The Jepson Manual. The genera are kept separate in Hitchcock & Cronquist's Flora of the Pacific Northwest (1973) and in Munz & Keck's A California Flora (1959). In some earlier works than these, however, the two genera were merged under the name *Swertia*, for example by the University of Hawaii botanist Harold St. John in 1941. Dr. James Pringle of the Royal Botanical Gardens, Hamilton, Ontario, wrote about the *Gentianaceae* for The Jepson Manual. In combining *Frasera* with *Swertia*, he took into account studies of the gentian family in Europe, Africa and Asia, as well as North America. He pointed out that in the Old World the two genera seem to merge morphologically (Phytologia vol. 41, pgs. 139-143, 1979). In his opinion, the differences that are said to separate *Frasera* from *Swertia* in the New World -- 4 vs. 5 petals; 1 gland per petal vs. 2 glands; 2 mm.-long style vs. stouter, 1 mm.-long style -- also show exceptions.

On the other side of the argument, Dr. Noel Holmgren of the New York Botanical Garden, kept the two genera separate in his treatment of *Gentianaceae* for The Intermountain Flora (vol. 4, pgs. 16-23, 1984). In Dr. Holmgren's opinion, evidence concerning generic relationships is incomplete, the question not having been satisfactorily settled, and "The species easily referable to *Frasera* in North America are readily distinguishable from the single North American representative of *Swertia* sensu stricto *S. perennis* L.." Both genera occur in Oregon, with *S. perennis* being limited to the Steens and Wallowa Mountains. Our most common species of *Frasera* is *F. albicaulis*, whose several varieties occupy much of

the state east of the Cascades. *Frasera umpquaensis* is a rare species found in the southern Cascades and Siskiyou Mountains. It is probably closely related to *F. fastigiata* of northeast Oregon, Washington and Idaho. Dr. Pringle merged these species for The Jepson Manual, but in my opinion much more detailed work needs to be done in order to understand their relationship. Over all, this example in *Gentianaceae* illustrates a case where the taxonomy is not yet settled, and hence where use of the name *Frasera* is optional.

I was recently alerted to an unavoidable name change for a species of *Liliaceae* occurring in Oregon -- *Streptopus roseus* (rosy twisted-stalk). Dr. James Reveal, University of Maryland, has discovered that because of publication priority, this species must be named *Streptopus lanceolatus* (Alton) Reveal (*Phytologia* vol. 74, pgs. 185-189, 1993). The plants in Oregon which are found in the northern Coast Range and in the Cascades south to Linn County, are classified in var. *curvipes* (Vail) Reveal.

—Kenton L. Chambers
Corvallis Chapter

1992: A Year of Drought and Discovery on BLM Lands

Although this information is late, you may still be interested in some of the activities of BLM botanists from last summer. More botanical discovery and protection is in progress this year.

Vale District

Vale District botanists found that the drought conditions resulted in virtually no bloom on Owyhee clover (*Trifolium owyheense*). Owyhee clover is a Federal candidate 2 (FC2) species located east of the Owyhee reservoir. Jean Findley, Vale District Botanist, noted that, "The leaflets on the Owyhee clover were so inconspicuous that we pretty much had to abandon the inventory we had planned for the year."

It was also discovered that a population of Mulford's milk-vetch (*Astragalus mulfordiae*) had significantly declined in plant numbers. This decline was thought to be due, in part, to the continued drought conditions. Mulford's milk-vetch is

an FC2 species which grows on sandy ridges and may be palatable to numerous animals including rodents, jackrabbits and cattle. This species has been identified on only a few sites in Idaho and eastern Oregon, and it is the subject of a 1992 Conservation Agreement committing BLM and the U.S. Fish and Wildlife Service to actions to conserve the species.

Burns District

In the Burns District, new FC2 populations of bastard kentrophyta (*Astragalus tegetasrioides*) and Leiberg's clover (*Trifolium leibergii*) were found in the Three Rivers Resource Area. Previously unknown populations of Leiberg's clover were also discovered by the U.S. Forest Service in the Ochoco National Forest. Although populations of bastard kentrophyta were not thought to grow during drought conditions, the populations in the Resource Area did show signs of growth in 1992.

Prineville District

Ron Halvorson, the District's natural resource specialist, reported that several new populations of Peck's milk-vetch (*Astragalus peckii*) were found, and that he suspects new populations will continue to be identified. The BLM is the primary agency involved in the species' management.

One new population of colonial luina (*Luina serpentina*) was also found; this brings the number of known populations on BLM land to three. Most populations of colonial luina are found in the Malheur National Forest.

Salem District

In the Salem District, giant polypore fungus (*Oxyporus nobilissimus*) was found and monitored in the Snow Peak Area. This species is specific to old-growth noble fir stands. This population of polypore fungus is the largest of the five known populations worldwide. It also occurs further south, and at a higher elevation than any other known population.

A new population of fir club-moss (*Lycopodium selago*) was also found and monitored in the Santiam Resource Area. There are very few populations of fir club-moss within the Resource Area, and the existing populations are very small. Monitoring efforts will continue in order to ensure that the populations are protected.

Eugene District

In the Eugene District, botanists located seven previously unknown populations of wayside aster (*Aster vitalis*). Wayside aster is an FC2 species, endemic to the southern Willamette Valley. It is the subject of an ongoing study by the Oregon Department of Agriculture (ODA) funded jointly by ODA and BLM under Challenge Cost Share (CCS).

Five new populations of the FC2 species tall bugbane (*Cimicifuga elata*) were also identified in the Eugene District. Nancy Wogen, the Eugene District botanist noted that while, "Tall bugbane has a broader distribution throughout the Pacific Northwest than the wayside aster, it is found less frequently." Like wayside aster, this species is also being studied under a CCS by ODA and BLM.

Roseburg District

Botanists in the Roseburg District located 24 new special status plant sites. The most significant finds were of wayside aster and Kincaid's lupine (*Lupinus sulphureus*) var. (*Kincaidii*). Both these special status plant sites are located along the southernmost extension of their respective ranges.

Two Federal candidate species -- crinite mariposa-lily (*Calochortus coxii*) and Umpqua mariposa-lily (*Calochortus umpquaensis*) -- were also monitored. Increasing numbers of crinite mariposa-lily were found in the populations sampled. Monitoring of Umpqua mariposa-lily indicated decreasing numbers within meadow, open canopy and forest habitats. Over all, reproductive success was significantly lower for both species in 1992 as compared to previous years. Endowments were established for both species through the Center for Plant Conservation.

Coos Bay District

Three populations of bensonina (*Bensonina oregona*) were found in this District. They are unique in that they are thought to be the most northerly known populations of bensonina, and they also occur at lower elevations than most populations. While these particular populations were located at 2,200 feet, bensonina is usually found higher than 3,000 feet.

Medford District

This District's "jewel find" in the summer contracting season of 1992 was an FC species that

had not been seen in over 50 years! The coral-seeded allocara, an annual species of (*Plagiobothrys*), was not extinct as had been previously feared, but just eluding botanists by not being in the right place at the right time, or by being one of the less than desirable plants to attempt keying. This was both an exciting and very important find.

The Bureau's botanists are again active with inventorying and monitoring for the 1993 field season, and are sure to turn up more new sightings, and advancements in our knowledge of rare plant ecology.

—Brenda Lincoln
Volunteer, Bureau of Land Management

METRO WASHINGTON PARK ZOO

VOLUNTEERS NEEDED

The Zoo is looking for volunteer gardeners to help with the second annual ZooBloom Festival. All talents and abilities are needed to help plant perennials and bulbs, prepare and design beds, and perform other gardening duties.

Planting will begin in November and preparations for the event will continue through the spring. Those interested should contact Paula Kurth at 220-2783. The time is flexible, but commitment to a daily or weekly schedule is desirable. Shifts are available on weekdays or weekends.

ZooBloom is a month-long floral festival that will take place next year from April 8 to May 1. The event highlights the Zoo's gardens and the environmental significance of plants, and also focuses on the relationships between plants and animals. The Festival will include major floral displays, animal topiaries, and enhancements to the Zoo's existing themed gardens.

Hart Mt. : Cow-Free in 93?

Hart Mt. is a 277,000 acre antelope refuge in eastern Oregon, east of Lakeview. A dramatic Draft Environmental Impact Statement (DEIS) just released by the U.S. Fish and Wildlife Service concludes that current cattle grazing by four permittees is not compatible with the dominant wildlife use prescribed by Executive Order 7523, establishing the refuge in 1936 (Refuges are not managed under multiple use.)

The two-volume, 504 page DEIS describes five alternative Comprehensive Management Plans that would govern the refuge for the next fifteen years. These alternatives are:

- A. Same Old Cow Poop
- B. Udder Nonsense (More Cows Than Ever)
- C. A Few Token Cows as Surgical Tools
- D. Ecosystem Management
- E. Let Refuge Go Downhill

Needless to say, the preferred alternative is D. This focuses on habitat restoration, with the goal of re-creating a pre-European landscape mosaic of plant successional communities that maximize biodiversity. Over time, active management intervention would wither away, and natural processes such as lightning fires would periodically renew the landscape.

Highlights of Alternative D include:

- no livestock grazing for fifteen years
- restoration of uplands through prescribed burns
- restoration of riparian zones by willow planting
- Research Natural Areas totaling 11,276 acres.
- closure of 161 miles of off-road vehicle tracks

The DEIS begins by exhaustively documenting core habitat problems directly attributable to a century of livestock industry practices: heavy grazing along streams (with consequent down-cutting of banks and lowered water tables and active suppression of grassland fires (with consequent late-seral succession of non-palatable woody species and diminished biodiversity.

The DEIS then describes the future desired condition of the refuge and getting there from here. Removing livestock helps greatly, but is not a total solution. An extensive program of prescribed burns is also needed.

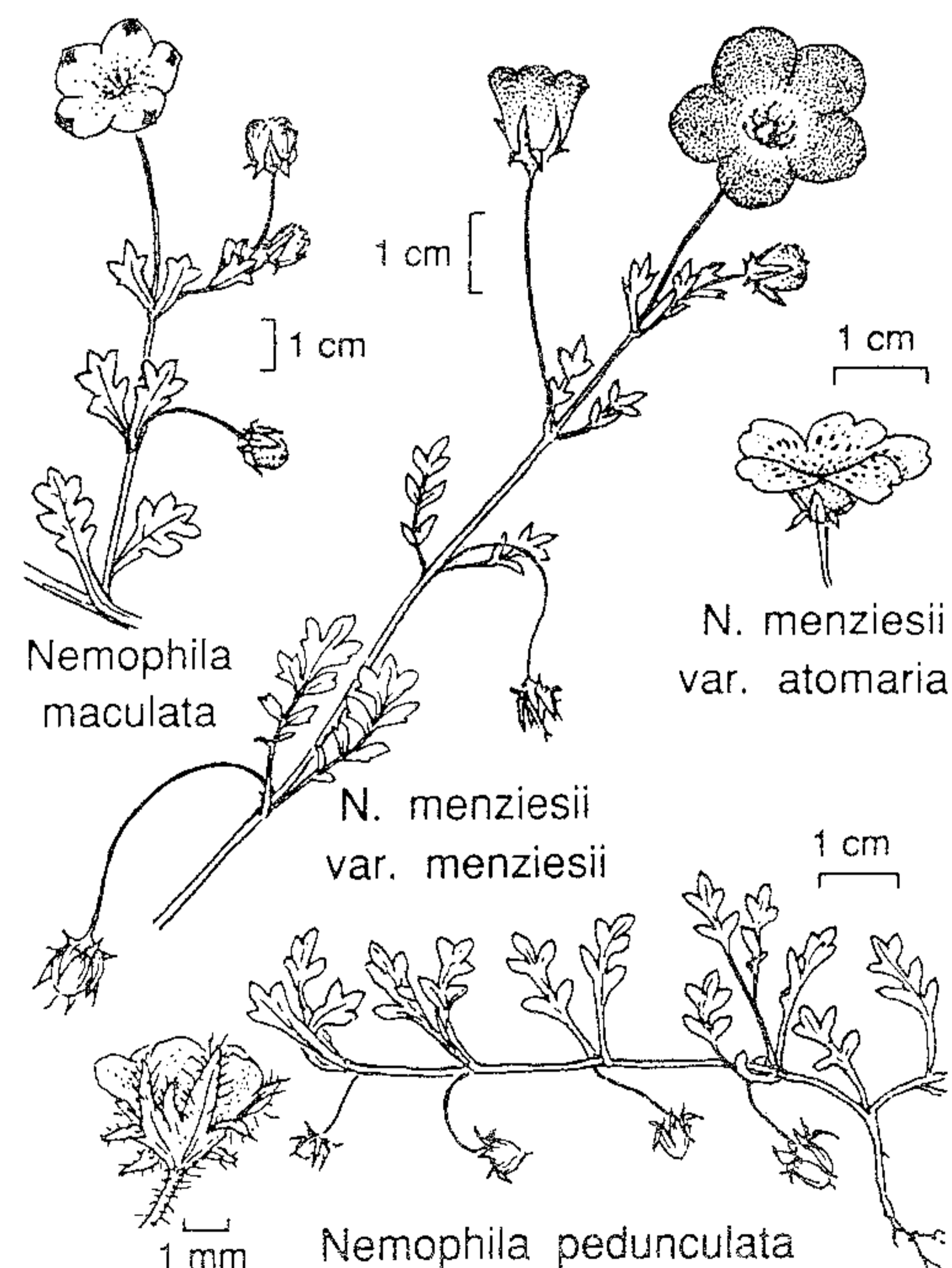
What's in all this for NPSO members? Spectacular wildflower displays, like those at Guano Creek! Better conditions for 29 R&E species, including *Eriogonum procidium*! Northern Great Basin ecosystems as they were meant to be! No more botanizing in pastures!

Want to comment on the Draft EIS? Alternative D very much needs your support. Be sure to add a request that the Refuge hire a professional botanist to conduct rare plant surveys prior to any significant management action.

A copy of the DEIS may be obtained by calling the Refuge at 503-947-3315. Comments are due **October 12** and should be sent to:

Barry Reiswig
Manager, Hart-Sheldon Refuge
P.O. Box 111
Lakeview, OR 97630

-- Tom Pringle
Emerald Chapter



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Membership applications, renewals, and change of address (include old address) should be sent to the Membership Chair

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

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Send completed form and full remittance to:

Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210-2412.

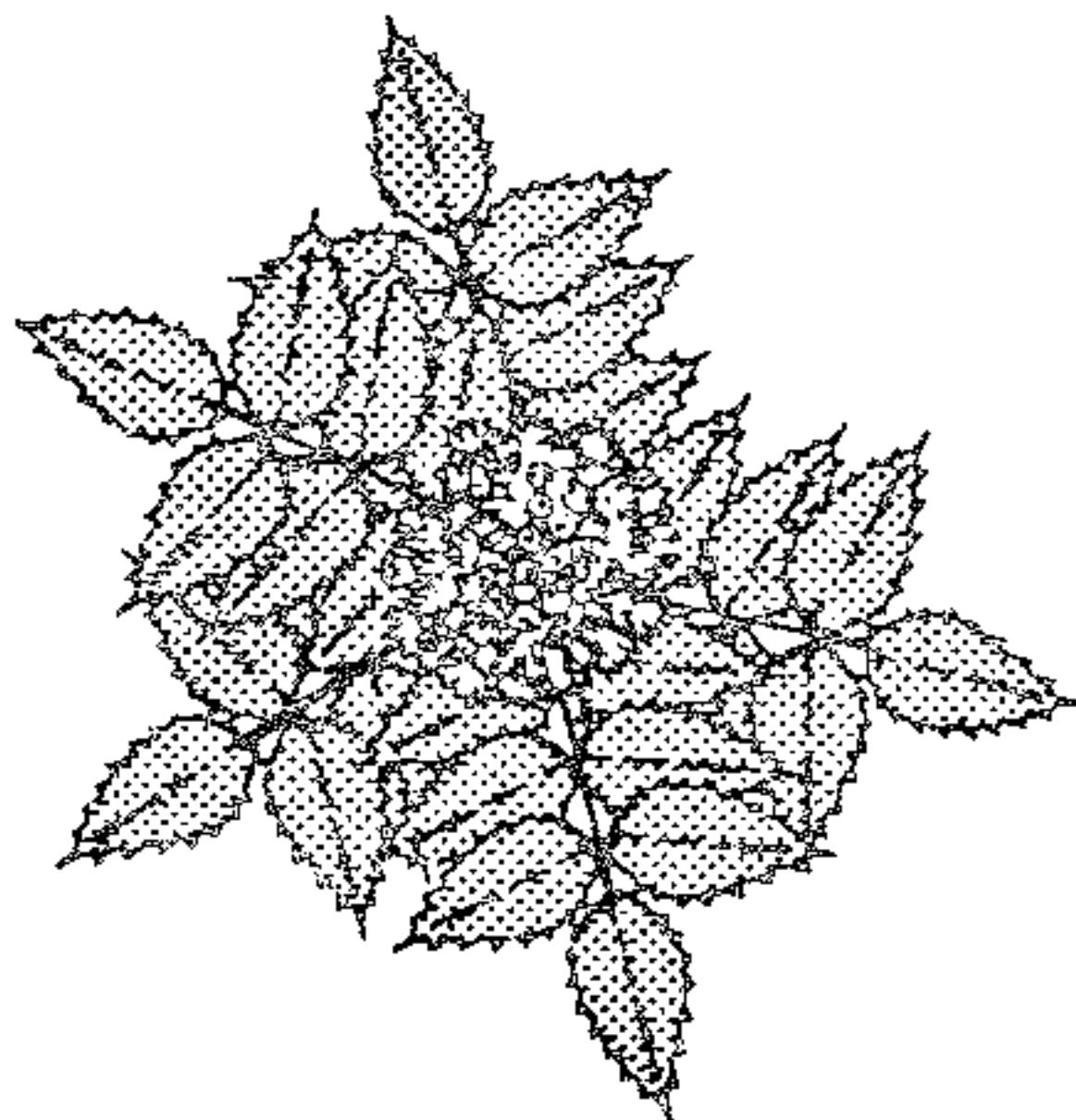
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