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.

Willamette National Forest SENSITIVE PLANT FIELD GUIDE



JENNIFER DIMLING, BOTANIST Willamette National Forest



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INTRODUCTION

This booklet is intended to be a semi-technical guide to the status and identity of the sensitive plant species found on Willamette NF. It is a compilation of material from status lists, handbooks on the rare plants of Oregon and existing reports and sightings found in the Supervisor's Office files. The handbook is meant to be updated as new information and status listings become available. Hopefully, all members of the USFS will use this book as a reference tool.

The USFS manual states that employees of the Agency shall seek to conserve plants according to the 1973 Endangered Species Act and to (1) maintain at least viable populations of all existing native plants, (2) assist in identification and recovery of threatened and endangered plants and (3) avoid actions which may cause a species to become threatened or endangered.

Our Sensitive Plant List is taken from the Region 6 U.S. Forest Service 1991 Sensitive Plant List. Each plant on the Regional list is rated or given a status by three agencies: Federal (US Fish and Wildlife Service through the Federal Review), State (Oregon Department of Agriculture) and Oregon Natural Heritage Data Base.

- Federal: The Endangered Species Act proposes three status categories: species listed as threatened or endangered, species proposed for listing, and candidate species for proposal to list. Only listed and proposed species are legally protected on federal land. We have no listed or proposed threatened or endangered species on the forest, only candidate species. There are 3 categories for candidate species:
 - **Category 1** Taxa for which the USFWS has sufficient information to support the proposal to list as endangered or threatened.
 - Category 2 Taxa which need additional information (further research) to be able to propose the plant as threatened or endangered.
 - Category 3 Taxa no longer being considered for listing as threatened or endangered because:

A-extinct

B-not taxonomically valid

C- taxa is more abundant and widespread than was originally thought and/or those not subject to any identifiable threat

Status presented is based on the 2/1990 Federal Register Notice of Review.

State:

All plants in any of the following categories are protected on stateowned lands by Oregon HB 533. The USFS Handbook states that employees should cooperate and consult with state agencies.



List 1: Endangered: Any native plant species determined to be in danger of extinction throughout all or any significant portion of its range or those listed as endangered on the Federal list List 2: Threatened: Any plant species determined likely to become endangered within the foreseeable future throughout all or any significant portion of its range

Candidate: Any plant species designated for study, whose numbers are believed low or declining, or whose habitat is sufficiently threatened and declining in quantity and quality, so as to potentially qualify for listing as a threatened or endangered species in the foreseeable future

Status is based on a list updated in February of 1991.

Oregon Natural Heritage Data Base:

In accordance with USFS Manual 8/90 Supplement (2670.44), the Region shall cooperate with State Heritage Programs when formulating and changing the Regional Forester's Sensitive Plant Species List.

List 1: Threatened or endangered throughout range

List 2: Threatened or endangered in Oregon, more stable elsewhere

Status is based on a list updated in November of 1990.

There are 7 Ranger Districts (RD) on the Willamette National Forest. In order to save space, the districts will be referred to in a 2-letter code:

SH: Sweet Home MK: McKenzie BR: Blue River RI: Rigdon DE: Detroit OA: Oakridge LO: Lowell

TABLE OF SENSITIVE SPECIES

)	Species	Known on WNF	Fed	STATUS State	ONHDB	
	Agoseris elata	no	_	_	2	
	Allium campanulatum	no	_		2	
	Arnica viscosa	no		—	2	
	Asplenium septentrionale	no		_	2	
	Aster gormanii	SH, DE	C2	С	1	
	Astragalus umbraticus	no	—		2	
	Botrychium minganense	SH	—		2	
	Botrychium pumicola	no	C1	С	1	
	Calamagrostis breweri	DE	—	—	2	
	Campanula scabrella	no		_	2	
	Carex livida	no			2	
	Cimicifuga elata	SH, LO	—	С	1	
	Frasera umpquaensis	LO, OA	C2	С	1	
	Gentiana newberryi	MK -	—	—	2	
	Hieracium bolanderi	RI		—	2	
	Lycopodium inundatum	BR, SH	—	—	2	
	Lycopodium selago	no	—	—	2	
1	Ophioglossum vulgatum	BR, MK, SH		—	2	
	Oxypolis occidentalis	BR	_		2	
	Pellaea andromedaefolia	no	—	—	2	
	Poa laxiflora	no	—	—	1	
j	Polystichum californicum	SH	—	—	2	
	Romanzoffia thompsonii	SH, OA, DE, LO BR, RI, MK	-	—	1	
	Scheuchzeria palustris	BR, SH, OA	—	—	2	
) : 	Sisyrinchium sarmentosum	no	C2	С	1	
	Utricularia minor	OA, BR	—	—	2	
	Wolffia columbiana	no	-	—	2	

SENSITIVE SPECIES BY HABITAT

	Habitat	at Location	
	Mesic Meadows		
)	Calamagrostis breweri	streambanks, lake margins moist meadows DE: 6,000' ¹	July-Sept.
	Frasera umpquaensis	meadows and open woods LO, OA: 4,200-4,600'	July-Aug.
)	Gentiana newberryi	moist meadows MK: 4,700'	Aug-Sept.
	Sisyrinchium sarmentosum	meadows (Mt. Hood NF; low elevation)	June-July
	Wet Meadows/Bog		
	Carex livida	bogs and swamps at low elevations (Mt. Hood NF)	May-July
	Lycopodium inundatum	sphagnum bog SH, BR: 4,050-4,200'	
)	Ophioglossum vulgatum	boggy meadows, open woods and vernal pools SH, BR: 1,400-5,200'	July-Sept.
-	Oxypolis occidentalis	mountain springs and bogs BR: 4,200'	July-Aug.
	Scheuchzeria palustris	sphagnum bogs and lake margins SH, OA, BR: 3,500- 4,500'	May-July
	Ponds		
>	Utricularia minor	standing or slowly-moving water at mid to high elevation OA, BR: 4,200'	June-August
	Wolffia columbiana	floating below surface	

¹Elevations given are those found in populations on the Willamette National Forest.

SENSITIVE SPECIES BY HABITAT

Habitat	Location	Phenology
Riparian Zone		
Lycopodium selago Calamagrostis breweri ² Poa laxiflora Sisyrinchium sarmentosum	streamside in dense moist woods to wet cliffs/talus (Mt. Hood, BLM Salem District)	Sept.
Moist Woods		
Botrychium minganense	moist woods adjacent to swamp SH: 3,300'	Aug-Sept.
Cimicifuga elata Lycopodium selago	moist woods SH, LO: 1,040-2,000'	June-July
Poa laxiflora	moist woods to streamside (Mt. Hood, Siuslaw NF to 2,400')	June
Dry Meadows and Open Woods		
Agoseris elata	meadows and open woods (Mt. Hood/Deschutes NF 3,000-10,500')	June-July
Allium campanulatum	openings in dry, coniferous woods (6- 8,000', suspected on NFs)	June-July
Astragalus umbraticus	open, dry woods (Siskiyou, Umpqua NF)	June
Hieracium bolanderi	moist to dry open woods and dry open slopes RI: 7,200'	June-July

²A plant may be listed twice in the habitat part of this booklet. The habitat type in which the plant is most commonly found is the habitat where the plant is discussed.

SENSITIVE SPECIES BY HABITAT

Habitat		Location	Phenology	
	Rocky Outcrops			
	Asplenium septentrionale	cliff crevices and talus slopes, moist (Umpqua NF, 4,000')		
	Pellaea andromedaefolia	rock wall, outcrops (Douglas and Lane Counties, 1,000')	
	Polystichum californicum	moist woods, cliffs and rock crevices		
I	Rocky Slopes, Scree	511. 2,000		
	Arnica viscosa	rocky places, lava slopes, near timberline (Deschutes and Umpqua NF)	August	
	Aster gormanii	scree slopes and rock shelves SH, DE: 3,840-6,200'	July-Aug.	
	Campanula scabrella	rocky areas, talus slopes (Mt. Adams, Hood, Shasta 9,000')	June-Aug.	
}	Romanzoffia thompsonii	moist drainage slopes all districts: 1,200-5,550'	March-July	
High Volcanic Areas				
	Botrychium pumicola	pumice gravel (Deschutes NF, above 7,200')	July-Sept.	

SENSITIVE PLANTS BY DISTRICT

BLUE RIVER

Lycopodium inundatum Ophioglossum vulgatum Oxypolis occidentalis Romanzoffia thompsonii Scheuchzeria palustris Utricularia minor

DETROIT

Aster gormanii Calamagrostis breweri Romanzoffia thompsonii

LOWELL

Cimicifuga elata Frasera umpquaensis Romanzoffia thompsonii

MCKENZIE

Gentiana newberryi Ophioglossum vulgatum Romanzoffia thompsonii

OAKRIDGE

Frasera umpquaensis Romanzoffia thompsonii Scheuchzeria palustris Utricularia minor

RIGDON

Hieracium bolanderi Romanzoffia thompsonii

SWEET HOME

Aster gormanii Botrychium minganense Cimicifuga elata Lycopodium inundatum Ophioglossum vulgatum Polystichum californicum Romanzoffia thompsonii Scheuchzeria palustris

SENSITIVE PLANT BY BLOOMING TIME (PHENOLOGY)

Species	Apr	May	June	July	Aug	Sept
Flowering Plants:						
Pomonzoffia thompsonii	v	v				
Actor gormonii	X	X		X		
Aster gormanii		X	X	X		
		X	X	X		
Poalaxifiora		X	X	×		
Scheuchzeria palustris		X	X	×		
Allium campanulatum			X	X		
Astragalus umbraticus			X			
Agoseris elata			X	X		
Campanula scabrella			x	X	X	
Cimicifuga elata			x	X		
Hieracium bolanderi			X	x	X	
Sisyrinchium sarmentosum			x	X		
Utricularia minor			x	x	x	
Arnica viscosa				x	x	
Botrychium minganense				x	x	X
Botrychium pumicola				x	x	X
Frasera umpquaensis				x	x	
Lycopodium inundatum				x	x	
Oxypolis occidentalis				x	x	
Calamagrostis breweri					x	x
Gentiana newberryi					x	X
Ophioglossum vulgatum					x	x
Lycopodium selago						x

SENSITIVE SPECIES BY FLOWER COLOR

BLUE

Campanula scabrella Gentiana newberryi (white within)

PURPLE

Sisyrinchium sarmentosum Allium campanulatum

GREEN

Frasera umpquaensis

WHITE

Aster gormanii- to pink to lavender Cimicifuga elata- cream to pink Oxypolis occidentalis- or purple Romanzoffia thompsonii- yellow throat Scheuchzena palustris- greenish-white

YELLOW

Agoseris elata Arnica viscosa Astragalus umbraticus Hieracium bolanderi Utricularia minor

SENSITIVE SPECIES BY FAMILY

CAMPANULACEAE

Campanula scabrella

COMPOSITAE (ASTERACEAE)

Agoseris elata Arnica viscosa Aster gormanii Hieracium bolanderi

CYPERACEAE

Carex livida

GENTIANACEAE

Frasera umpquaensis Gentiana newberryi

GRAMINEAE (POACEAE)

Calamagrostis breweri Poa laxiflora

HYDROPHYLLACEAE Romanzoffia thompsonii

IRIDACEAE Sisyrinchium sarmentosum

LEGUMINOSAE (FABACEAE) Astragalus umbraticus

LEMNACEAE Wolffia columbiana

LENTIBULARIACEAE Utricularia minor

LILIACEAE

Allium campanulatum

LYCOPODIACEAE

Lycopodium inundatum Lycopodium selago

OPHIOGLOSSACEAE

Botrychium minganense Botrychium pumicola Ophioglossum vulgatum

POLYPODIACEAE

Asplenium septentrionale Pellaea andromedaefolia Polystichum californicum

RANUNCULACEAE Cimicifuga elata

SCHEUCHZERIACEAE Scheuchzeria palustris

UMBELLIFERAE Oxypolis occidentalis

Agoseris elata (Nutt.) Greene

Tall agoseris, false dandelion or mountain dandelion Compositae or Sunflower Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on Willamette National Forest; documented on Deschutes, Wenatchee, Okanogan, and Mt. Hood NFs.

<u>Habitat</u>: Dry to mesic meadows and open woods, from valleys to moderate elevations in the mountains, 3,000 - 10,500'.

Range: Washington to California, both sides of the Cascades.

Description: Perennial; 3-6.5 dm in height, glabrous with the exception of short villous hairs on the involucre; leaves basal, 10-30 cm long, entire to pinnatifid; stem with milky sap;

flowers large-headed and yellow; involucre 2-3 cm high, bracts imbricate, the outer broader and blunter than the inner.

Blooming: June-July, August at high elevations.

<u>Threats</u>: Change in drainage; timber harvest.

References: Hitchcock: p. 479, Vol. 5, p. 25. Abrams: Vol. 4, p. 564.



Photo: Don Eastman



Hitchcock and Cronquist, 1975

Allium campanulatum wats.

Sierra Onion Liliaceae or Lily Family

Status: FWS: None; OR: None, ONHDB: 2

Distribution: Suspected on the Sweet Home Ranger District of the Willamette National Forest, documented on the Fremont NF.

Habitat: Dryish places, montane to alpine, within open coniferous forests.

Range: North central Oregon to California and Nevada.

Description: Onion with more than three leaves, flattened and v-shaped, not hollow, leaves wither by anthesis and drop by fruiting; inflorescence stem rounded, not flattened, less than 1.5 dm in height; bulb at base ovoid; flower tepals 7-8, purplish (rarely white) with

a dark purple blotch near the base, tips keeled; ovary with 6 prominent central crests.

Blooming: June-July

<u>Threats</u>: Hikers walking off trail, trampling plants; timber harvest.

References: Hitchcock: p. 682, Vol. 1, p. 745-6. Abrams: Vol. 1, p. 391.



Photo: Lois Kemp



Hitchcock and Cronquist, 1975

Arnica viscosa (Gray)

Shasta arnica, Sticky arnica Compositae or Sunflower Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette National Forest. It was historically found in Deschutes Co. (Moraine L., Three Sister's Wilderness) and Klamath Co. (Crater L.).

<u>Habitat</u>: Rocky places, lava slopes and slopes with seasonal water run-off, near or above timberline (6-8,000') in the Cascades. Soil is poor, rocky, well-drained. Associated with *Picea breweriana*¹, *Pinus monticola, Tsuga mertensiana, Abies lasiocarpa, Pinus albicaulis, Penstemon* spp. and *Carex brewerii*.

Range: Southern Oregon Cascades to Mt. Shasta, California.

Description: Perennial with freely branching stems, 20-50 cm tall. Plants covered with hairs, many gland-tipped. Leaves abundant, opposite, oval, 2-4 cm long and without petioles. Leaves at the base reduced. Flower heads one per stem, 2-2.5 cm, yellow with no ray flowers. Involucre sticky with lanceolate, acuminate bracts, 9-12 mm long.

Arnica venosa looks similar, but is less conspicuously pubescent and leaves are sharply toothed (also mainly located in Shasta Co., California).

Blooming: July-August

<u>Threats</u>: Poor ability to reestablish seedlings; hikers, skiers, pumice mining.

References: Abrams, Vol. 4, p. 426-7. Abrams, 1923.

All common names which correspond to Latin names may be seen in the Glossary of Plant Names at the back of this book.



Photo: OR Natural Heritage Dbase



Abrams, 1923

Asplenium septentrionale (L.) Hoffom.

Grass fern Polypodiaceae or Fern Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette NF; documented on Umpqua NF.

Habitat: Cliff crevices and talus slopes, usually in moist sites.

Range: Western Europe and Asia, western U.S.

<u>Description</u>: Plant with a slender rhizome; blades not divided but leaves often forked, slender and grass-like. Stipe much longer than the blade; leaf as a whole less than 6" long and 1/8" wide.

<u>Threats</u>: Rock quarrying; rock climbers.

References: Not in Hitchcock, Abrams or Peck. The best source is the original description: Lang, Frank A. 1969. The First Record of Asplenium septentrionale L. Hoffm. in Oregon. <u>American Fern</u> <u>Journal</u>. 59:2.



Photo: David Wagner



Lang, 1969

Aster gormanii (Piper) Blake

Gorman's aster Compositae or Sunflower Family

Status: FWS: C2; OR: C; ONHDB: 1

Distribution: Documented on the Sweet Home and Detroit RDs on the Willamette National Forest; also found on the Mt. Hood NF.

Habitat: Dry, exposed scree slopes and rock shelves within them, usually north-facing, mid to high elevations (3,800 to 6,500 feet). Associated with Abies procera, Tsuga mertensiana, Comandra umbellata, Arctostaphylos nevadensis, Juniperus communis, Calocedrus decurrens, Tsuga hererophylla, Xerophyllum tenax, Achillea lanulosa, Agrostis variabilis, Arnica latifolia, Fragaria, Juncus sp., and Penstemon procerus.

Range: Central Cascades of Oregon; endemic to Willamette and Mt. Hood NFs.

Description: Perennial with a creeping rhizome which produces mats 3-18 cm across and 1-3 dm tall. Leaves are sessile, glandular,

entire, 1-3 cm long; lower leaves are reduced. Heads are usually solitary and terminal on the stems; ray flowers are white to pink or lavender and discs flowers yellow, 2-4 mm across and 1 cm long. Bracts are in a spiral, greentipped, loose, ovate and sharp-pointed.

Gorman's aster is related to A. paucicapitus, which differs in having broad lanceolate-ovate involucral bracts, lacking the short sparse pubescence on the underside of the leaves and more southern range. Aster gormanii hybridizes with A. ledophyllus, which differs in having cottony, not glandular to glandular-hairy, leaf pubescence.

Blooming: July to September

<u>Threats</u>: Timber harvest; road building; gravel operations; hikers and trail maintenance; collection in the wild; competitors causing shading or increased moisture if habitat stabilized.

<u>References</u>: Hitchcock: p. 91, Vol. 5, p. 86. Abrams: Vol. 4, p. 326.



Photo: Herm Fitz





Hitchcock and Cronquist, 1975



Astragalus umbraticus Sheld.

Woodland Milkvetch Leguminosae or Pea Family

Status: FWS: 2; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette National Forest; documented on Siskiyou and Umpqua NFs.

Habitat: Open, dry woods in rich soil.

Range: Yamhill County, Oregon to northwest California.

Description: Perennial with a stout taproot; plant pale green with 15-23 pinnately compound leaflets; stems glabrous, erect, with long internodes. Flowers average 15-25 per stalk and are loosely clustered. Calyx is campanulate, 3 mm long, black and hairy. The

corolla is yellowish-white, 7 mm; pod linear and curved upward, about 12 mm long.

Blooming: June

Threats: Timber harvest.

References: Hitchcock: p. 242, Vol. 3, p. 269. Abrams: Vol. 2, p. 602.



Photo: Don Eastman



Hitchcock and Cronquist, 1975

Botrichium minganense Victorin

Gray moonwort Ophioglossaceae or Adder's Tongue Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the Sweet Home RD on the Willamette NF and Mt. Hood NF.

<u>Habitat</u>: Moist forest on slopes of <10%, always near water; associated with *Thuja plicata*, *Acer circinatum*, *Oxalis trillifolia*, moss, and often found with other members of the species, especially *Botrychium multifidum* in our area; middle elevations (3300').

<u>Range</u>: Great Lakes to Colorado; British Columbia to Quebec; throughout California, north to Oregon.

Description: Plant slender and somewhat fleshy, to 15 cm in height; sterile segments simply pinnate, lobes somewhat folded together but not overlapping so that lowest several pairs tend to embrace the base of the fertile stalk; fertile segment 4-4.5 times longer than the sterile segment; apical pinnae become gradually reduced in size; fertile segment emerges and overtops the sterile segment early in development, ending up about 3 cm in height.

Can be confused with *Botrychium lunularia* but the two may be separated basedon leaf morphology; *B. minganense* has (a) narrower pinnae (3.5 versus 10 mm), (b) a broadly cuneate base (versus a cordate base), (c) lower margin of the pinnae are ascending (rather than descending) and (d) the pinnae do not overlap.

Fertile: August-September

<u>Threats</u>: Timber harvest, change in hydrology or opening/loss of the canopy cover.

<u>References</u>: Michael, John T, 1979, <u>How To</u> <u>Know the Ferns and Fern Allies</u>. William C. Brown Co., Dubuque.

Taylor, T.M., 1973, <u>The Ferns and Fern-</u> <u>allies of British Columbia</u>, British Columbia Provincial Museum, Victoria.

Wagner, W.H. and F. Wagner, 1983, "Genus Communities As A Systematic Tool In the Study of the New World *Botrychium* (Ophioglossaceae)", <u>Taxon</u> 2:51-63.



Photo: Courtney Loomis



Botrichium pumicola Cov. in Underw.

Pumice grapefern Ophioglossaceae or Adder's Tongue Family

Status: FWS: C1; OR: C; ONHDB: 1

<u>Distribution</u>: Suspected on the Willamette NF; documented on the Deschutes NF (Paulina Mtns., Three Sister's Wilderness) and in Klamath Co. (Crater L.), on the east side of the Cascades.

<u>Habitat</u>: Pumice gravel, no humus, at high elevations (above 7200'). After snowmelt soil becomes extremely dry.

Range: Mid-Cascades in Oregon to Mt. Shasta, California.

Description: Plants stout, fleshy, 8-22 cm high; fertile and sterile segments erect; fronds 1-2, 6-14 cm in length; sterile blade sessile, leathery, approximately 3 cm and usually ternately divided; sporophyll with tip recurved, sessile or short-stalked, equaling or surpassing sterile blade, paniculate; old leaf bases remain, forming a sheath around the lower half of plant.

Fertile: July-September

Threats: Hikers trampling plants; collection.

References: Abrams: Vol. 1, p. 3.



Photo: David Wagner



Abrams, 1923

Calamagrostis breweri Thurb.

Brewer's reedgrass Gramineae or Grass Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the Detroit RD of the Willamette National Forest and on the Mt. Hood NF.

Habitat: Streambanks, lake margins, moist subalpine to alpine meadows (6,000-12,200').

Range: Clackamas County, Oregon to Salmon-Trinity Mtns and Sierra Nevada in California.

Description: The taxonomy of this plant is difficult. Note the very narrow leaves tufted at the base of the plant and purple coloring of the florets. The length of the twisted awn,

which exceeds the glume by 1.5-2 mm, and the shallowly 4-toothed glume, 3.3-4 mm in length, are distinctive. The lemma is shallowly toothed. The plant is glabrous, 1.5-3 dm in height with rounded ligules and panicles 3-8 cm in length. Consult a professional for identification.

Blooming: July-August

<u>Threats</u>: Change in hydrology; timber harvest; hikers trampling plants.

References: Hitchcock: p. 628, Vol. 1, p. 523-4. Abrams: Vol. 1, p. 157.



Photo: Jenny Dimling



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Hitchcock and Cronquist, 1975



Campanula scabrella Engelm.

Rough harebell Campanulaceae or Harebell Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette NF, documented on the Wallowa-Whitman and Mt. Hood NFs.

Habitat: Rocky areas and talus slopes at high elevations, around 9,000'.

Range: Mt. Adams and Wenatchee Mountains in central Washington to Mt. Shasta and Mt. Eddy in Siskiyou County, California.

Description: Perennial about 10 cm tall, stems much branched, densely short bristly.

Leaves entire, basal leaves clustered, usually oblanceolate, up to 4 cm long; cauline leaves reduced and narrower. Flowers usually solitary, terminal, calyx 2-6 mm. Corolla blue, bell-shaped, 6-12 mm. Capsule 5-7 mm, opening near summit.

Blooming: June-August

Threats: Hikers trampling plants.

References: Hitchcock: p. 459, Vol. 4, p. 487. Abrams: Vol. 4, p.76.



Photo: Lois Kemp



Hitchcock and Cronquist, 1975

Carex livida (Wahl.) Willd.

Pale Sedge Cyperaceae or Sedge Family

Status: FWS: None; OR: None; ONHDB:2

Distribution: This plant is suspected on the Willamette National Forest; it is documented on the Mount Hood NF.

Habitat: Low elevation bogs and swamps.

<u>Range</u>: Circumboreal; south to western Washington, northwest Montana, Michigan and New Jersey, disjunct in northwest California.

Description: This plant keys out into Group 4 of the *Carex* species in Hitchcock and Cronquist's Flora of the Pacific Northwest; it has more than 2 spikes and 3 deciduous

stigmas. Leaves are 1-3.5 mm wide. The bracts, which subtend atleast the lowest spike, have a well-developed sheath of 5 mm in length, but the bracts are not taller than the inflorescence. Spikes only have 5 to 15 flowers. The perigynium is glabrous, not compressed, beakless (or almost so) and densely pimpled.

Blooming: May-July

Threats: Change in hydrology of wet habitats.

References: Hitchcock: p. 586, Vol. 1, p. 285-6. Abrams: Vol. 1, p. 322.



Photo: Peter Lesica


Cimicifuga elata Nutt.

Tall Bugbane Ranunculaceae or Buttercup Family

Status: FWS: None; OR: None; ONHDB: 1

Distribution: Extant populations are located on Sweet Home and Lowell RDs and historical populations were found on Blue River RD on the Willamette National Forest. Populations exist on no other National Forests, but on the Eugene and Salem Districts of the BLM.

Habitat: Moist woods, a coniferous/deciduous mix, at lower elevations. Associated species include an overstory of *Pseudotsuga menziesii*, *Tsuga heterophylla*, *Acer macrophyllum* and *Taxus brevifolia*, a shrub layer of *Aralia nudicaulis*, *Acer circinatum*, *Ribes bracteosum*, *Aruncus sylvester* and *Rubus parviflorus*, and an herb layer consisting of *Berberis nervosa*, *Polystichum munitum*, *Adiantum pedatum*, *Oxalis oregana* and *Vancouveria hexandra*. Plants often grow associated with rocky cliffs and/or riparian areas.

Range: Chellam County, Washington to Lane County, Oregon, on the west side of the Cascades.

Description: Perennial with a stem 1-2 m, pubescent and glandular; maple-like leaflets

shallowly lobed, 4-12 cm, ovate-orbicular, finely serrate-dentate; inflorescence a closelyflowered panicle, glandular; flowers apetalous, sepals (4) 5, cream to pinkish, shed at anthesis; stamens many, cream-colored; follicles 1 or 2, subsessile.

Look-alikes include some of the most common shrubby species on the forest: Acer macrophyllum, Rubus parviflora, Actea rubra and Ribes bracteosa. In all of these plants, the leaf shape is similar. The tall bugbane may be most easily distinguished by its biternately compound leaflets with fuzzy peduncles and its elongate inflorescence. Since flowers have no petals, stamens are all one sees. Fruits are brown and look like inflated pea pods.

Blooming: June-July

<u>Threats</u>: Timber harvest; change in hydrology or cover.

References: Hitchcock: p. 128; Vol. 2, p. 337-8. Abrams: Vol. 2, p. 179.



Photo: Lois Kemp





Frasera umpquaensis Peck & Appleg.

Umpqua swertia Gentianaceae or Gentian Family

Status: FWS: C2; OR: None; ONHDB: 1

Distribution: Documented on Lowell and Oakridge RDs of the Willamette NF. Also located on Rogue River, Siskiyou and Umpqua NFs and the Eugene District of the BLM.

Habitat: Edges between open subalpine woods and moist meadows, in damp areas under the canopy, and one population in a beargrass bald. The Umpqua Swertia is found between 4,000 and 5,000' (1350-1950 m). Usually found in *Abies*-dominated forests, associated with *Rhododendron, Trifolium howelii, Rudbeckia occidentalis, Pteridium aquilinum, Pyrola picta, Chimophila umbellata, Dicentra formosa, Achillea lanulosa, Agoseris aurantica, Aquilegia formosa, Aster ledophyllus, Carex pennsylvanica, Danthonia californica, Eriophyllum lanatum, Senecio triangularis, Elymus glauca, Salix, Sidalcea cusickii, Scirpus microcarpus.*

Range: From Lane County through southwestern Oregon to Trinity Co., California, western slope of the Oregon Cascades.

Description: Tall biennial; stem glabrous, 5-11 dm; basal leaves oblanceolate to sub-spatulate, 20-40 cm long; cauline leaves in whorls of 3-5; inflorescence a dense panicle, 1-2 dm long; calyx cleft nearly to the base, corolla scarcely equaling the calyx, pale yellow-green or bluish or white, each petal with a fringed gland, 4-parted, found in leaf axils.

The most distinctive feature of this plant is its upright inflorescence which is similar to beargrass. One may see last year's spike the following spring.

A look-alike to watch out for is *Luina stricta*, whose leaves are of the same texture as the Swertia's. However, *Luina*'s leaves are not whorled and flowers are very different.

Blooming: July-August

<u>Threats</u>: Logging; change in the hydrology of wet areas; grazing.

References: Abrams: Vol. 3, p. 362.



Photo: Warren Pavlat



Abrams, 1923



Gentiana newberryi (Gray)

Newberry's gentian Gentianaceae or Gentian Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the McKenzie RD of the Willamette National Forest. Also found on the Deschutes and Mt. Hood NFs.

<u>Habitat</u>: Moist montane meadows to subalpine slopes at mid to upper elevations (4-5000'). Associated plant species include *Polygonum achoreum* and grasses.

Range: Oregon Cascades to California and Nevada.

<u>Description</u>: Low-growing alpine perennial; broad, spatula-shaped leaves, less than 6 times as long as broad, leaves become smaller as you proceed up stem, opposite; flowers

large (5 cm long) and solitary, varying from white or yellowish to blue or deep violet, white within and blotched with green or purple spots.

Newberry's gentian is similar to *G*. *algida* in flower size and color, but the leaves are much broader.

Blooming: August-September

Threats: Hikers; trail maintenance.

References: Hitchcock: p. 358-9, Vol. 1, p. 860. Abrams: Vol. 3, p. 356.



Photo: Herm Fitz





Hieracium bolanderi Gray

Bolander's hawkweed Compositae or Sunflower Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Located on the Rigdon RD of the Willamette National Forest. Also found on Rogue River and Siskiyou NFs.

<u>Habitat</u>: Dry to moist open woods and steep rocky slopes from 1,000 to 7,200', often below timberline.

Range: Douglas, Curry, Josephine and Jackson Counties in Oregon to Humboldt County, California.

Description: Slender perennial, 1-3 dm; stems from woody caudex, unbranched below;

basal leaves 1.5-7 cm, spatulate, sessile, entire to denticulate with long hairs; open inflorescence, glabrous except for an occasional small linear hairy bract; involucre glabrous, often blackish tinged, 8-9 mm long; heads 3-10, pale yellow (rarely white); achenes linear, dark brown and striated, 3 mm, pappus white to tawny. *Hieracium bolanderi* may hybridize with

H. albiflorum and others within the genus.

Blooming: June-August

Threats: Timber harvest.

References: Abrams: Vol. 4, p. 598-9.



Photo: Wayne Rolle



Abrams, 1923



Lycopodium inundatum L.

Northern bog club moss Lycopodiaceae or Clubmoss Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on Blue River and Sweet Home RDs of the Willamette National Forest. Also located on the Siuslaw NF.

<u>Habitat</u>: Open sphagnum bogs from coast to mountains; associated with *Drosera rotundifolia* and *Vaccinium occidentale*. Grows on scoured banks or on floating logs at middle elevations (4,200').

Range: Interrupted circumboreal.

<u>Description</u>: Freely-rooting main stem which gives rise to upright branches which terminate in cones. Unlike *Lycopodium annotinum*, the sporophyllous leaves are very similar to the vegetative leaves—entire, linear, tapering to a point. The difference is that the sporophyll leaves have expanded bases. Cones are sessile, upright, terminal and ellipsoidglobose in shape.

Fertile: July-August

<u>Threats</u>: Elk thrash ground with antlers digging up vegetation; any action which changes the hydrology of the bog.

References: Hitchcock: p. 40, Vol. 1, p. 25-6. Abrams, Vol. 1, p. 44.



Photo: David Wagner



Lycopodium selago L.

Fir clubmoss Lycopodiaceae or Clubmoss Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette National Forest; documented sites occur on Mt. Hood NF and the Salem District of the BLM.

Habitat: In our area fir clubmoss is most common in streamside habitats under a dense moist canopy associated with moss, *Mitella ovalis, Oplopanax, Blechnum spicant, Oxalis oregana, Tsuga heterophylla, Acer circinatum, Vaccinium parvifolium, Coptis laciniata.* Most are found at low to mid-elevation in the *Tsuga heterophylla* zone. Fir clubmoss has also been found in bogs and on shaded rocks in arctic-alpine regions, in the *Abies amabilis* zone, and on exposed cliffs and talus slopes.

Range: Circumboreal; scattered throughout Oregon.

Description: Stems are erect, forming a <u>cluster</u> of leafy shoots; plant with elongate sporophylls (like *Lycopodium inundatum*) that are not very different from vegetative leaves, sporophyll zones alternate with vegetative zones in the leafy shoot clumps.

Fertile: September

Threats: Timber harvest.

References: Hitchcock: p. 41, Vol. 1, p. 27. Abrams: Vol. 1, p. 43.



Photo: Lois Kemp



Ophioglossum vulgatum L.

Adder's tongue Ophioglossaceae or Adder's Tongue Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the Blue River, McKenzie and Sweet Home RDs of the Willamette National Forest. Populations are also located on the Siuslaw NF.

<u>Habitat</u>: Shaded boggy meadows and pond edges at middle elevations (1,500-4,968'). Associated with *Rosa gymnocarpa, Pteridium aquilinum, Agrostis exarata, Carex* sp., *Equisetum hyemale, Juncus effusus, Spiraea douglasii* and *Fraxinus latifolia*.

Range: Circumboreal: North America, Europe, Asia.

Description: Perennial with erect and glabrous leaf; sterile blade attached well above

ground level, sessile, elliptic to ovate and smooth-margined. The unbranched fertile stalk is 3-15 cm in length and erect with sporangia borne in 2 rows.

Might be confused with lily family leaves, but leaves with reticulate, not parallel veination.

Fertile: August-September

Threats: Timber harvest; disturbance of hydrology and/or cover.

References: Hitchcock: p. 45, Vol. 1, p. 56. Abrams: Vol. 1, p. 2.



Photo: Bob Ross





Oxypolis occidentalis Coult & Rose

Cow-bane or Western occidentalis Umbelliferae or Carrot Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the Blue River RD of the Willamette National Forest.

Habitat: Mountain springs and bogs.

Range: Cascade mountains of southern Oregon to Sierra Nevada and San Bernadino Mountains of California.

Description: Plant an erect aquatic herb; most easily distinguished by its simple pinnate, ovate to lanceolate and crenate leaves and by its simple to sparingly branched stem. Upper leaves become fewer and lanceolate to linear. Involucre 1-2 bracts, flowers white or purple. Carpels have prominent nerves which make them looked 5-ribbed.

Blooming: July-August

Threats: Change in hydrology of the wet habitat.

References: Abrams: Vol. 3, p. 243-4.



Photo: Carolyn Close



Abrams, 1923



Pellaea andromedaefolia (Kauf.) Fee

Coffee fern Polypodiaceae or Fern Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette National Forest; documented locations occur in Douglas and Lane counties, but not on federal land.

Habitat: Western Oregon inland valleys on non-calcareous rock at mid to low elevations.

Range: Mid-Oregon down to southern California.

Description: Rhizome slender, creeping, with distant fronds; fronds 4-24 inches; stipe round, yellow, glabrous; blade bi- to tri-pinnate, triangular to oval in shape with entire to lobed margins; fertile segments curved under while sterile ones flat; blades dull green to

reddish-purple above, pale or yellowish green below; rachis and stipe with slight whitish bloom.

References: Abrams: Vol. 1, p. 30.



Photo: C.L. Weber



Abrams, 1923

Poa laxiflora Buckl.

Loose-flowered bluegrass Gramineae or Grass Family

Status: FWS: None; OR: C; ONHDB: 1

Distribution: Suspected on the Willamette National Forest. Populations are documented on the Siuslaw and Mt. Hood NFs.

Habitat: Moist woods composed of mixed stands of conifer and deciduous trees or alder flats, within moist zone of riparian areas; prefer partial shade and gentle slopes; associated species include *Polystichum munitum*, *Bromus*, *Oxalis*, *Carex*, *Galium* and other moist site indicators; found from near sea level to low elevations in the mountains.

<u>Range</u>: Southern Alaska to the Olympic Peninsula, south through Oregon; most populations are found along the Coast Range.

Description: Rhizomatous perennial 3-4 ft. in height; stems not clustered; leaf sheaths and blades usually retrorsely scabrous, ligules 3-5 mm long, blades 2-4 mm wide; inflorescence an open drooping panicle, 10-15 cm long; spikelets 3 or 4-flowered, 5-6 mm long; lemmas webbed at base and pubescent on the keel; florets perfect. Consult a professional for identification.

Blooming: May-July

<u>Threats</u>: Timber harvest; road construction.

<u>References</u>: Hitchcock: p. 660, Vol. 1, p. 666. Abrams: Vol. 1, p. 11.



Photo: Dan Luoma



Polystichum californicum L.

California sword fern Polypodiaceae or Fern Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Found on the Sweet Home RD of the Willamette National Forest. Also found on the Umpqua NF.

<u>Habitat</u>: At lower elevations California sword fern is found in sheltered warm sites associated with dry cliffs and rock crevices where plants can receive moisture and in streambeds at middle elevations. Average elevation for plant habitat is 2,000'.

Range: Western Washington (Wenatchee) to the coastal ranges of central California.

Description: Perennial with a stout rhizome; fronds medium, 0.5-4.0 dm, firm and spinulose-tipped; lowest 2-8 pair of leaflets cleft

as much as 2/3 way to the midvein.

Threats: Timber harvest.

<u>References</u>: Hitchcock: p. 54, Vol. 1, p. 87. Abrams: Vol. 1, p. 11.



Photo: Warren Pavlat





Romanzoffia thompsonii

Thompson's mist maiden Hydrophyllaceae or Waterleaf Family

Status: FWS: 3C; OR: None; ONHDB: 1

Distribution: Populations are documented on all 7 Ranger Districts of the Willamette National Forest. It is also documented on Umpqua NF.

<u>Habitat</u>: Moist, steep, seeping open drainage slopes from lower to mid elevations, (1,200-5,550'); soil is rocky and shallow. Associated species include *Holodiscus discolor, Mitella breweri, Montia sibirica, Delphinium menziesii, Mimulus guttatus* and *Sedum nuttallii*.

Range: Central Oregon Cascades only.

Description: This is the only known annual *Romanzoffia*. The stem is several-branched; leaves (3) 5-lobed, clustered basally, early deciduous, cauline usually opposite and 3-5 mm, silky hairs in leaf axils; flowers axillary, petals white with a yellow tube; capsule 2-celled, flattened.

Blooming: April-June

Threats: Quarrying; roadbuilding.

References: Not in any key.



Photo: David Wagner



Scheuchzeria palustris var. americana L.

Scheuchzeria Scheuchzeriaceae Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: This plant is documented on Sweet Home, Blue River and Oakridge RDs of the Willamette National Forest. It is also found on the Mount Hood NF.

<u>Habitat</u>: In sphagnum bogs and along lake margins in boreal zones. *Scheuchzeria* is often associated with *Carex* sp., *Drosera* sp., *Vaccinium uliginosum*, *Kalmia microphylla*, *Tofieldia glandulosa*, *Potentilla palustris* and other bog plants.

Range: Alaska to Sierra County, California.

Description: Perennial rush-like plant with rhizomes; leaves 10-40 cm, ones at the base persistent, those at the top reduced to sheathing bracts; prominent ligule at juncture of sheath and blade, 10-12 mm in length; racemes 3 to 12-flowered; pedicels spread in fruit (to 25 mm); perianth greenish-white and membraneous, segments oblong and approx. 3 mm; fruit a 4-8 mm follicle which appears inflated and is 3-parted and straw-colored.

This plant may be seen, by practiced eye, on aerial photos. The areas which this plant inhabits appear reddish.

Blooming: May-July

<u>Threats</u>: Change in hydrology.

<u>References</u>: Hitchcock: p. 97, Vol. 1, p. 153. Abrams: Vol. 1, p. 97.



Photo: David Wagner



Sisyrinchium sarmentosum Suksd. ex Green.

Suksdorf's Blue-Eyed grass Iridaceae or Iris Family

Status: FWS: C2; OR: C; ONHDB: 1

Distribution: Suspected on the Willamette National Forest; documented on the Mt. Hood and Gifford Pinchot NFs.

Habitat: Margins of mesic meadows and stream zones.

Range: Canada to eastern Washington and North Dakota.

Description: Stems grow in small leafless tufts which grow to 2-4.5 mm tall; bracts of the spathe linear, the inner exceeding the pedicels, the outer much longer than the inner; sepals and petals from pale to dark blue or purplish, yellow at the base; capsule globose.

One other species of *Sisyrinchium*, *S. idahoense*, may be confused with *S. sarmentosum*. They may be separated by a variety of tepal characters; *S. sarmentosum* tepals have no emargination, are pale blue and have an <u>outer</u> tepal length/width ratio of 2.8 to 3.0, while *S. idahoense* has emarginate outer tepals which are dark blue and have a length/ width ratio of greater than 3.0. Also, Suksdorf's blue-eyed grass has a wide hyaline margin near the apex of the inner bract. *Sisyrinchium idahoense* lacks this bract character.

Blooming: June-July

Threats: Timber harvest.

References: Abrams: Vol. 1, p. 466. Henderson, Douglas M., 1976, "A Biosystematic Study of Pacific Northwestern Blue-Eyed Grasses (Sisyrinchium, Iridaceae)," <u>Brittonia</u>, 28:149-76.



Photo: Lois Kemp



Utricularia minor L.

Lesser Bladderwort Lentibulariaceae or Bladderwort Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Documented on the Oakridge and Blue River RDs of the Willamette National Forest.

Habitat: Standing or slowly-moving water; grows submerged and creeping along the bottom of the water body.

<u>Range</u>: Circumboreal, extending from Alaska south to Tulare County, California, Utah, Colorado, Indiana, New Jersey, Ohio and Pennsylvania.

Description: This plant is insectiverous. Bladders are insect-catching devices which are borne along with leaves on stem (as opposed to being on specialized branches which only support bladders); leaf tips are sharply pointed; corolla is yellow, the spur is much less than the 4-8 mm long lower lip; pedicels are recurved in fruit.

Blooming: June-August

Threats: Changes in hydrology.

References:

Hitchcock: p. 446, Vol. 4, p. 434-435. Abrams: Vol. 4, p. 12.



Photo: (U. intermedia) Paula Brooks





Wolffia columbiana Karst.

Water-Meal Lemnaceae or Duckweed Family

Status: FWS: None; OR: None; ONHDB: 2

Distribution: Suspected on the Willamette National Forest; documented on the Mount Hood NF.

Habitat: Ponds; associated with W. punctata, Azolla, Lemna and Spirodela.

Range: Widely distributed in North and South America, but rare in our area.

Description: Plant floating just below the surface of the water body; thallus ovoid to subglobose, scarcely 1 mm long, body greenish, stomata 1-6.

The closest relative, *Wolffia punctata*, has an oblong thallus, white to brown pockmarks on both surfaces and numerous stomates.

Threats: Changes in hydrology, sedimentation.

References: Hitchcock and Cronquist: p. 677-78, Vol. 1, 735.



Glossary of Plant Names

Latin Name

Common Name

Abies amabilis Abies lasiocarpa Abies procera Acer circinatum Acer macrophyllum Achillea lanulosa Actaea rubra Adiantum pedatum Agoseris aurantica Agrostis exarata Agrostis variabilis Aquilegia formosa Aralia nudicaulis Arctostaphylos nevadensis Arnica latifolia Arnica venosa Aruncus sylvester Aster ledophyllus Aster paucicapitus Azolla Berberis nervosa **Blechnum** spicant Botrychium multifidum Botrychium lunularia Bromus Calocedrus decurrens Carex breweri Carex pensylvanica Chimophila umbellata Comandra umbellata Coptis laciniata Danthonia californica Delphinium menziesii Dicentra formosa Drosera rotundifolia Elymus glaucus Eriophyllum lanatum Equisetum hyemale Frageria Fraxinus latifolia Galium

Pacific silver fir Subalpine fir Noble fir Vine maple **Big-leafed maple** Yarrow Red baneberry Lady fern Orange mountain dandelion Spike bentgrass Variant bentorass **Red columbine** Wild sarsaprilla, aralia **Kinnickinnick** Mountain arnica Veiny arnica Goatsbeard Cascade aster Olympic Mountain aster Water fern Cascade oregon grape Deer fern Leathery grapefern Moonwort Brome grass Incense cedar Brewer's sedge Long-stolon sedge Prince's pine Fake toadflax Oregon goldthread California oatgrass Menzies' larkspur Bleeding heart Sundew Blue wheatgrass or western rye-grass Oregon sunshine Horsetail, scouring rush Strawberry Oregon ash **Bedstraw**

Glossary of Plant Names

Latin Name

Gentiana algida Hieracium albiflorum Holodiscus discolor Juncus effusus Juniperus communis Kalmia microphylla Lemna Luina stricta Lycopodium annotinum Mimulus guttatus Mitella breweri Mitella ovalis Montia sibirica Oplopanax horridum Oxalis oregana Oxalis trillifolium Penstemon Penstemon procerus Picea breweriana Pinus albicaulis Pinus monticola Polygonum achoreum Polystichum munitum Potentilla palustris Pseudotsuga menziesii Pteridium aquilinum Pyrola picta Rhododendron **Ribes bracteosum** Rosa gymnocarpa Rubus parviflorus Rudbeckia occidentalis Salix Scirpus microcarpus Sedum nuttalii Sidalcea cusickii Sisyrinchium idahoense Senecio triangularis Spiraea douglasii Spirodela Taxus brevifolia

Common Name

Whitish gentian White-flowered hawkweed Ocean spray Soft or common rush Mountain juniper Small-leafed kalmia Duckweed **Tongue-leafed luina** Stiff clubmoss Yellow monkeyflower Brewer's mitrewort Oval-leafed mitrewort Miner's lettuce Devil's club Oregon wood-sorrel Trillium-leaved wood-sorrel Penstemon or beardstongue Small-flowered penstemon Weeping spruce White pine Western white pine **Knotweed** Common swordfern Marsh cinquefoil Douglas fir Bracken fern White-veined pyrola or wintergreen Rhododendron Stink currant Baldhip or little wild rose Thimbleberry Coneflower Willow Small-fruited bulrush Nuttal's stonecrop Cusick's checkermallow Idaho blue-eyed grass Arrow-leaved groundsel Douglas spiraea Great duckweed Pacific yew

Glossary of Plant Names

Latin Name

Thuja plicata Tofieldia glandulosa Trifolium howellii Tsuga heterophylla Tsuga mertensiana Vaccinium parvifolium Vaccinium occidentale Vancouveria hexandra Wolffia punctata Xerophyllum tenax

Common Name

Western red cedar Tofieldia Howell's or bigleaf clover Western hemlock Mountain hemlock Red huckleberry Western bog blueberry Inside-out flower Water-meal Beargrass

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