

SENSITIVE PLANTS AND NOXIOUS WEEDS of the WENATCHEE NATIONAL FOREST

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SENSITIVE PLANTS AND NOXIOUS WEEDS OF THE WENATCHEE NATIONAL FOREST

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TO THE READER

The purpose of this field guide is to help you recognize the sensitive plants and noxious weeds listed for the Wenatchee National Forest. If you find a rare plant or noxious weed, it is very important that you record the location, and contact the nearest District or Forest botanist.

Please take many photographs, but **DO NOT COLLECT ANY PART OF A SENSITIVE PLANT UNLESS ABSOLUTELY NECESSARY, AND THEN ONLY IF THERE ARE MORE THAN 20 INDIVIDUALS PRESENT** (the 1-in-20 rule). Take detailed notes so the District or Forest botanist can verify your sighting. An **IDENTIFICATION TIPS** section is included with each sensitive plant write-up that will guide you in your note-taking. Please use the Sensitive Plant Sighting Form in this book as a reference for recording general information about your sighting. **The IDENTIFICATION TIPS section is not included in the noxious weed descriptions, as you may bring in plant specimens.**

The descriptions in this guide are botanically accurate, but there are limits to the amount of detail that can be included for the hard-to-identify species. There are very subtle differences between some closely related species, and the use of a technical key will be necessary for positive identification.

The sensitive plants listed in this guide were based on the Regional Forester's Sensitive Species List. This list is updated on a yearly basis, so there may be additions and deletions to this guide in the future. Contact the District or Forest Botanist for the most current list.

Remember...protecting sensitive plants and preventing the spread of noxious weeds can only happen when we know where these plants are, and we need your help in locating them. Your cooperation is greatly appreciated!

NOMENCLATURE

"Vascular Plants of the Pacific Northwest" by Hitchcock et al. (1955-1969) was the taxonomic authority for this guide, except as noted below. The sensitive plant codes and much of the habitat information is from "An Illustrated Guide to the Endangered, Threatened and Sensitive Vascular Plants of Washington" (1981) by the WA Natural Heritage Program. Many of our sensitive plants are also listed for the Mount Baker-Snoqualmie National Forest, and some of the descriptions are derived from "Sensitive Plants and Noxious Weeds of the Mount Baker-Snoqualmie National Forest."

Information on the use by Native Americans of sensitive plants or closely related species was taken from "Ethnobotany of the Okanagan-Colville Indians of British Columbia and Washington" (Nancy J. Turner, et al., 1980).

Note: With some exceptions, text measurements are given in metric units, although both English (inches and feet) and metric measurements are provided for the line drawings. A ruler is included in the inside back cover of this book for your convenience.

HOW TO USE THIS FIELD GUIDE

This field guide contains both sensitive (often called "rare") plant and noxious weed descriptions. The pages are intentionally not numbered, so that they can be amended as the need arises. All descriptions are in alphabetical order according to scientific nomenclature (genus). A glossary is included in this book, but to make the text easier for the reader to understand, some vocabulary is defined in parenthesis immediately following the word.

Text format for plant descriptions:

Front page

Scientific name

Genus (for example, *Spiranthes*) and specific epithet (*romanzoffiana*), including variety (*var. porrifolia*) when recognized. If the variety has recently replaced the specific epithet, parenthesis will be used to indicate change, for example, *Spiranthes (romanzoffiana var.) porrifolia*. Alpha code, if available, follows in paranthesis, composed of the first 2 letters of the genus and the specific epithet, sometimes with an additional designation (*SPPO2*).

Common name

Western ladies-tresses, pearltwist

Common family name (*Scientific family name*)

Orchid family (*Orchidaceae*)

RANGE AND HABITAT: Any existing Wenatchee National Forest Ranger District information. County, WA state information; any other range information. Specific habitat with plant associations, if known.

SIMILAR SPECIES: Similar species by scientific name, with identifying features. Comparison of listed plant is included when appropriate, and if space allows. If similar species are too numerous, specific identifying features of listed plant are noted instead. If similar species are of the same genus as the listed plant, the generic name is referred to by the first letter and a period (*S. romanzoffianna var. romanzoffiana*).

IDENTIFICATION TIPS: What to measure or pay particular attention to when collecting information for identification. Follow the 1-in-20 rule for collection (do not collect any part of a sensitive plant unless there are at least 20 individuals present). This section is not included in the Noxious Weed text.

REMARKS: Interesting information regarding plant name, history, use by Native Americans, etc..

Color photo

Back page

Scientific name

Scientific family name

Common name

DESCRIPTION: A general plant description, including height.

LEAVES: Leaf description, including size when necessary.

STEMS: Stem description, only included when there are identifying attributes.

FLOWERS: (Blooming period) Color, flower description, including size and petal number when necessary.

FRUITS: Description of fruit (seed), only included when there are identifying attributes.

Line drawing

When line drawings of the described plant are inadequate, those of a closely related species may be used.

DEFINITION OF STATUS: ENDANGERED, THREATENED, AND SENSITIVE SPECIES

Sensitive Species: Those plant and animal species identified by a Regional Forester for which population viability is a concern as evidenced by:

a. Significant current or predicted downward trends in population number or density.

b. Significant current or predicted downward trends in habitat capability that would reduce the existing distribution of a species.

Candidate Species: Those plant and animal species that, in the opinion of the U.S. Fish and Wildlife Service (FWS) may become endangered or threatened. These are formally recognized in a current Federal Register Notice of Review. The FWS recognizes three categories of candidate species for potential listing as endangered or threatened:

Catagory 1—Species for which the FWS has substantial information on hand to support the biological appropriateness of listing the species as endangered or threatened.

Catagory 2—Species for which information now in possession of the FWS indicates that proposing to list the species as endangered or threatened is possibly appropriate but for which conclusive data on biological vulnerability and threat(s) are not currently available to support the proposed rules.

Catagory 3—Species that are no longer being considered for listing as endangered or threatened and are not regarded as candidate species.

Threatened Species: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and that the appropriate Secretary has designated as a threatened species.

Endangered Species: Any species in danger of extinction throughout all or a significant portion of its range.

Washington state identifies rare plants as **endangered, threatened, sensitive, or monitor**. Only endangered, threatened, and sensitive species are considered for inclusion on the Regional Forestser's Sensitive Species List. Washington state also includes a status of **Possibly Extirpated** with some species, based upon recent field searches (status of out-of-state populations is not considered).

SENSITIVE PLANTS: CITATION AND STATUS

By scientific name, including the authority.

* Indicates a species endemic to the Wenatchee Mountains area.

STATE STATUS

FEDERAL STATUS

Agoseris elata (Nutt.)Greene

Tall agoseris (AGEL2)

sensitive

sensitive

Anemone nuttalliana DC.

Pasqueflower, windflower (ANNU)

sensitive

sensitive

Antennaria parvifolia Nutt.

Nuttall's pussytoes (ANPA3)

sensitive

sensitive

Astragalus arrectus Gray

Palouse milk-vetch (ASAR)

sensitive

sensitive

Botrychium (BOTRY)

Botrychium lanceolatum (Gmel.)Angstr.

Lance-leaved grape-fern (BOLA)

sensitive

sensitive

Botrychium lunaria (L.)Swartz

Moonwort (BOLU)

sensitive

sensitive

Botrychium minganense Vict.

Victorin's grape-fern (BOMI)

sensitive

sensitive

STATE STATUS

FEDERAL STATUS

Botrychium montanum W.H.Wagner

Mountain grape-fern (BOMO)

sensitive

sensitive

Botrychium pinnatum St. John

Pinnate grape-fern (BOPI)

sensitive

sensitive

Botrychium simplex E Hitchc.

Little grape-fern (BOSI2)

sensitive

sensitive

Carex buxbaumii Wahl.

Buxbaum's sedge (CABU3)

sensitive

sensitive

Carex comosa Boott

Bristly sedge (CACO5)

sensitive

sensitive

Carex macrochaeta C.A.Meyer

Large-awn sedge (CAMA4)

sensitive

sensitive

Carex paupercula Michx.

Poor sedge (CAPA9)

sensitive

sensitive

Carex proposita Mack.

Smoky Mountain sedge (CAPR9)

sensitive

sensitive

Carex saxatilis L. var. *major* Olney

Russet sedge (CASA2)

sensitive

sensitive

STATE STATUS

FEDERAL STATUS

Carex stylosa C.A.Meyer

Long-styled sedge (CAST3)

sensitive

sensitive

Carex sychnocephala Carey

Many-headed sedge (CASY)

sensitive

sensitive

Castilleja cryptantha Pennell & G.N.Jones

Obscure Indian-paintbrush (CACR6)

sensitive

category 2

**Chaenactis thompsonii* Cronq.

Thompson's chaenactis (CHTH)

sensitive

sensitive

Cicuta bulbifera L.

Bulb-bearing water hemlock (CIBU)

sensitive

sensitive

Cryptogramma stelleri (S.G.Gmel.) Prantl

Steller's rock-brake (CRST)

sensitive

sensitive

Cypripedium (calceolus L. var.) *parviflorum* (Salisb.) Fern.

Yellow lady's-slipper (CYPA)

endangered

sensitive

Cypripedium fasciculatum Kell. ex S. Wats.

Clustered lady's-slipper (CYFA)

threatened

sensitive

**Delphinium viridescens* Leiberg

Wenatchee larkspur (DEVI)

endangered

category 1

STATE STATUS

FEDERAL STATUS

Eleocharis atropurpurea (Retz.) Kunth

Purple spike-rush (ELAT)

possibly extirpated**sensitive***Epipactis gigantea* Dougl. ex Hook

Giant helleborine (EPGI)

sensitive**sensitive***Eritrichium nanum* (Vill.) Schrad. var. *elongatum*

(Rydb.) Cronq.

Pale alpine forget-me-not (ERNAE)

sensitive**sensitive****Geum rossii* var. *depressum* (R.BR.) SER. in DC.

Ross' avens (GEROD)

sensitive**sensitive***Githopsis specularioides* (Nutt.)

Common blue-cup (GISP2)

sensitive**sensitive***Hackelia hispida* (Gray) Johnst. var. *disjuncta*

Rough stickseed, wild forget-me-not (HAHID)

sensitive**sensitive****Hackelia venusta* (Piper) St. John

Showy stickseed (HAVE)

endangered**category 1****Iliamna longisepala* (Torr.) Wiggins

Longsepal globemallow (ILLO)

sensitive**sensitive***Limosella acaulis* Ses. & Moc.

Southern mudwort (LIAC)

sensitive**sensitive**

STATE STATUS

FEDERAL STATUS

Loiseleuria procumbens (L.)Desv.

Alpine azalea (LOPR)

sensitive

sensitive

Mimulus suksdorfii (Nutt.)Greene

Suksdorf's monkey-flower (MISU)

sensitive

sensitive

Montia diffusa (Nutt.)Greene

Branching montia (MODI3)

sensitive

sensitive

Nicotiana attenuata Torr.

Wild tobacco, coyote tobacco (NIAT)

sensitive

sensitive

Orobanche pinorum Geyer

Pine broomrape (ORPI)

sensitive

sensitive

Oryzopsis hendersonii Vasey

Henderson's ricegrass (ORHE)

sensitive

sensitive

Pedicularis rainierensis Pennel & Warren

Mount Rainier lousewort (PERA5)

sensitive

sensitive

Pellaea brachyptera (Moore)Baker

Sierra cliff-brake (PEBR2)

sensitive

sensitive

Pellaea breweri D.C. Eat.

Brewer's cliff-brake (PEBR3)

sensitive

sensitive

STATE STATUS

FEDERAL STATUS

****Petrophytum cinerascens*** (Piper) Rydb.

Chelan rockmat (PECI2)

threatened

category 1

Platanthera sparsiflora (S. Wats.) Schlechter

Canyon bog-orchid, rein-orchid (HASP)

sensitive

sensitive

Pleuricospora fimbriolata Gray

Fringed pinesap (PLFI2)

sensitive

sensitive

Salix vestita Pursh var. *erecta* Anderss

Rock willow (SAVEE)

possibly extirpated

sensitive

Saxifraga debilis Engelm.

Pygmy saxifrage (SADE)

sensitive

sensitive

****Sidalcea oregana*** (Nutt.) Gray var. *calva* C.L. Hitchc.

(Wenatchee) Oregon checker-mallow (SIORC)

endangered

category 1

****Silene seelyi*** Morton & Thompson

Seely's silene (SISE)

threatened

category 2

Spiranthes (romanzoffiana Cham. var.) *porrifolia*

Western ladies-tresses, pearlwort (SPPO2) (Lindl.) Ames & Correll

sensitive

sensitive

****Trifolium thompsonii*** Morton

Thompson's clover (TRTH)

threatened

category 1

SENSITIVE PLANTS
BY FAMILY

APIACEAE; UMBELLIFERAE—Parsley Family

Cicuta bulbifera

ASTERACEAE; COMPOSITAE—Aster Family

Agoseris elata

Antennaria parvifolia

Chaenactis thompsonii

BORAGINACEAE—Borage Family

Eritrichium nanum var. *elongatum*

Hackelia hispida var. *disjuncta*

Hackelia venusta

CAMPANULACEAE—Harebell Family

Githopsis specularioides

CARYOPHYLLACEAE—Pink Family

Silene seelyi

CYPERACEAE—Sedge Family

Carex buxbaumii

Carex comosa

Carex macrochaeta

Carex paupercula

Carex proposita

Carex saxatilis var. *major*

Carex stylosa

Carex sychnocephala

Eleocharis atropurpurea

ERICACEAE—Heath Family

Loiseleuria procumbens

Pleuricospora fimbriolata

FABACEAE; LEGUMINOSAE—Pea Family

Astragalus arrectus

Trifolium thompsonii

MALVACEAE—Mallow Family

Iliamna longisepala

Sidalcea oregana var. *calva*

OPHIOGLOSSACEAE—Adder's-tongue Family

Botrychium lanceolatum

Botrychium lunaria

Botrychium minganense

Botrychium montanum

Botrychium pinnatum

Botrychium simplex

ORCHIDACEAE—Orchid Family

Cypripedium (calceolus var.) *parviflorum*

Cypripedium fasciculatum

Epipactis gigantea

Platanthera sparsiflora

Spiranthes (romanzoffiana var.) *porrifolia*

OROBANCHACEAE—Broomrape Family

Orobanche pinorum

POACEAE; GRAMINEAE—Grass Family

Oryzopsis hendersonii

POLYPODIACEAE—Common Fern Family

Cryptogramma stelleri

Pellaea brachyptera

Pellaea breweri

PORTULACACEAE—Purslane Family

Montia diffusa

RANUNCULACEAE—Buttercup Family

Anemone nuttalliana

Delphinium viridescens

ROSACEAE—Rose Family

Geum rossii var. *depressum*

Petrophytum cinerascens

SALICACEAE—Willow Family

Salix vestita var. *erecta*

SAXIFRAGACEAE—Saxifrage Family

Saxifraga debilis

SCROPHULARIACEAE—Figwort Family

Castilleja cryptantha

Limosella acaulis

Mimulus suksdorfii

Pedicularis rainierensis

SOLANACEAE—Potato or nightshade family

Nicotiana attenuata

SENSITIVE PLANTS BY HABITAT

In many cases these are unverified habitat preferences from a plethora of sources; please see individual plant references for more specific habitat descriptions.

MIXED DECIDUOUS AND CONIFEROUS FORESTS

Botrychium lanceolatum

Botrychium minganense (often with western red cedar)

Botrychium montanum

Botrychium pinnatum

Cypripedium (*calceolus* var.) *parviflorum* (damp, mossy, mixed forest)

Montia diffusa

MOIST TO DRY CONIFEROUS FORESTS

Antennaria parvifolia (open ponderosa pine)

Astragalus arrectus (open pine)

Botrychium lanceolatum

Botrychium lunaria

Botrychium minganense (often with western red cedar)

Botrychium montanum

Botrychium pinnatum

Cypripedium fasciculatum

Iliamna longisepala (open ponderosa pine or mixed conifer)

Montia diffusa

Orobanche pinorum (parasitic on ocean spray)

Pellaea brachyptera (ponderosa pine, also dry, rocky slopes)

Pleuricospora fimbriolata (emerging from duff in dense forest)

Sidalcea oregana var. *calva* (moist areas, sometimes in open forest)

Trifolium thompsonii (dry, open forest)

SERPENTINE SOILS

Chaenactis thompsonii

Geum rossii var. *depressum*

HIGH ELEVATION OPEN RIDGETOPS

Anemone nuttalliana

Botrychium pinnatum

ROCK OUTCROPS AND CREVICES/CLIFFS/LEDGES

Saxifraga debilis

Cryptogramma stelleri (shaded, moist, and limestone cliffs)

Pellaea breweri

Petrophytum cinerascens

GRAVEL/SCREE/TALUS/OTHER ROCKY AREAS

Botrychium lanceolatum

Botrychium minganense

Carex proposita (often on talus)

Geum rossii var. *depressum*

Hackelia hispida var. *disjuncta*

Hackelia venusta (rocky slopes, sometimes with ponderosa pine)

Pellaea brachyptera (also in scattered ponderosa pine)

Saxifraga debilis

Eritrichium nanum var. *elongatum*

DRY MEADOWS

Agoseris elata

Anemone nuttalliana

Astragalus arrectus

Castilleja cryptantha

Delphinium viridescens (moist meadow drying in summer)

Githopsis specularioides (dry, open places)

Iliamna longisepala (dry, open hillsides)

Mimulus suksdorfii

Nicotiana attenuata

Oryzopsis hendersonii

Pedicularis rainierensis

Trifolium thompsonii (to lightly wooded)

Silene seelyi

WET MEADOWS/MARSHY AREAS/SEEPS/OTHER RIPARIAN AREAS

Botrychium lunaria

Botrychium pinnatum

Botrychium simplex

Carex buxbaumii (bogs, marshes, wet meadows)

Carex comosa (marshes, lake margins, ditches)

Carex macrochaeta (seeps and waterfall areas)

Carex paupercula (bogs and sedge meadows)

Carex saxatilis var. *major* (shallow water, bogs sedge meadows)

Carex stylosa (marshes, streambanks)

Carex sychnocephala (marshes, lake margins)

Castilleja cryptantha (subalpine meadows)

Cicuta bulbifera

Cypripedium (*calceolus* var.) *parviflorum*

Delphinium viridescens (meadow drying in summer)

Eleocharis atropurpurea

Epipactis gigantea (streambanks, lake margins, wet spots in dry places)

Iliamna longisepala (gravelly streambanks)

Loiseleuria procumbens

Pedicularis rainierensis

Platanthera sparsiflora

Salix vestita var. *erecta* (high elevation)

Saxifraga debilis

Sidalcea oregana var. *calva* (streambanks, boggy meadows)

Spiranthes (*romanzoffiana* var.) *porrifolia*

COMMON NAME LISTING OF SPECIES

1. SENSITIVE PLANTS

Alpine azalea

Loiseleuria procumbens

Branching montia

Montia diffusa

Brewer's cliff-brake

Pellaea breweri

Bristly sedge

Carex comosa

Bulb-bearing water hemlock

Cicuta bulbifera

Buxbaum's sedge

Carex buxbaumii

Canyon bog-orchid, rein-orchid

Platanthera sparsiflora

Chelan rockmat

Petrophytum cinerascens

Clustered lady's-slipper

Cypripedium fasciculatum

Common blue-cup

Githopsis specularioides

Fringed pinesap

Pleuricospora fimbriolata

Giant helleborine

Epipactis gigantea

Grape-fern, moonwort

Botrychium species

Henderson's ricegrass

Oryzopsis hendersonii

Lance-leaved grape-fern

Botrychium lanceolatum

Large-awn sedge

Carex macrochaeta

Little grape-fern

Botrychium simplex

Longsepal globemallow

Iliamna longisepala

Long-styled sedge

Carex stylosa

Many-headed sedge

Carex sychnocephala

Moonwort

Botrychium lunaria

Mountain grape-fern

Botrychium montanum

Mount Rainier louswort

Pedicularis rainierensis

Nuttall's pussy-toes

Antennaria parvifolia

Obscure Indian-paintbrush

Castilleja cryptantha

Oregon (Wenatchee) checker-mallow

Sidalcea oregana var. *calva*

Pale alpine forget-me-not

Eritrichium nanum var. *elongatum*

Palouse milk-vetch

Astragalus arrectus

Pine broomrape
Orobanche pinorum

Pinnate grape-fern
Botrychium pinnatum

Poor sedge
Carex paupercula

Purple spike-rush
Eleocharis atropurpurea

Pygmy saxifrage
Saxifraga debilis

Rock willow
Salix vestita var. *erecta*

Ross' avens
Geum rossii var. *depressum*

Russet sedge
Carex saxatilis var. *major*

Rough stickseed, wild forget-me-not
Hackelia hispida var. *disjuncta*

Seely's silene
Silene seelyi

Showy stickseed
Hackelia venusta

Sierra cliff-brake
Pellaea brachyptera

Smoky Mountain sedge
Carex proposita

Southern mudwort
Limosella acaulis

Steller's rock-brake
Cryptogramma stelleri

Suksdorf's monkey-flower

Mimulus suksdorfii

Tall agoseris

Agoseris elata

Thompson's chaenactis

Chaenactis thompsonii

Thompson's clover

Trifolium thompsonii

Victorin's grape-fern

Botrychium minganense

Wenatchee larkspur

Delphinium viridescens

Western ladies-tresses, pearltwist

Spiranthes (romanzoffiana var.) porrifolia

Wild tobacco, coyote tobacco

Nicotiana attenuata

Yellow lady's-slipper

Cypripedium (calceolus var.) parviflorum

2. NOXIOUS WEEDS

Blueweed, viper's bugloss

Echium vulgare

Common bugloss, alkanet

Anchusa officinalis

Common crupina

Crupina vulgaris

Dalmation toadflax

Linaria genistifolia ssp. *dalmatica*

Diffuse knapweed

Centaurea diffusa

Dyers woad

Isatis tinctoria

Eurasian water-milfoil

Myriophyllum spicatum

Leafy spurge

Euphorbia esula

Meadow knapweed

Centaurea jacea x *nigra*

Musk thistle

Carduus nutans

Orange hawkweed

Hieracium aurantiacum

Oxeye-daisy, Marguerite daisy

Chrysanthemum leucanthemum

Perennial pepperweed

Lepidium latifolium

Purple loosestrife

Lythrum salicaria

Rush skeletonweed

Chondrilla juncea

Russian knapweed

Centaurea repens

Scotchbroom

Cytisus scoparius

Scotch thistle

Onopordum acanthium

Spotted cat's-ear, false dandelion

Hypochaeris radicata

Spotted knapweed

Centaurea maculosa

Tansy ragwort

Senecio jacobaea

Yellow hawkweed

Hieracium pratense

Yellow starthistle

Centaurea solstitialis

SENSITIVE PLANTS

***Agoseris elata* (AGEL2)**
Tall agoseris
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Naches, Cle Elum, and Leavenworth Ranger Districts. WA to CA; suspected in meadows, open woods, and exposed rocky ridge tops on various slope aspects, from low elevations to timberline. Non-maritime.

SIMILAR SPECIES: *A. elata* can be easily confused with other species and genera. Pale agoseris (*A. glauca*) has an achene (dry fruit) with a prolonged, slender tip that is scarcely or not at all marked with parallel lines. The genera *Crepis* and *Microseris* also resemble *A. elata*. *Crepis* is most easily distinguished by the presence of cauline (stem) leaves and generally more than one flower head. *Microseris* has beakless achenes.

IDENTIFICATION TIPS: Make note of flower head color, type of flowers in head.

REMARKS: Historic use of *A. elata* is unknown. The nearly identical *A. glauca* was used by the Okanagan-Colville Indians for medicinal purposes, and the milky sap was dried until like latex, then used as chewing gum.



Don Eastman



Julie Kierstead

Agoseris elata

Asteraceae; Composite

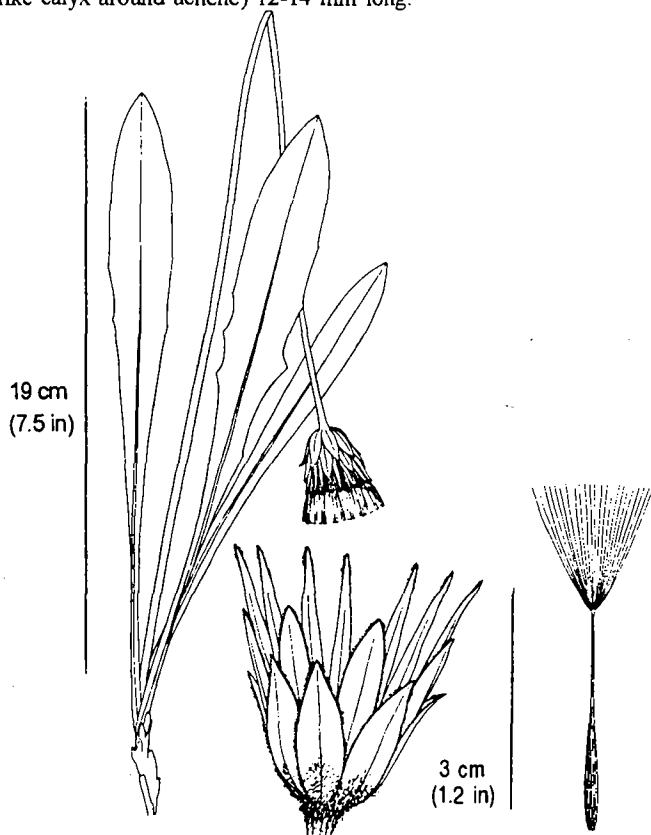
Tall agoseris

DESCRIPTION: A rather stout perennial, 2-7 dm (8-28") tall, with a leafless, flowering stem and milky sap. Plant hairless or with short hairs.

LEAVES: All are basal, oblong lance-shaped, with either a smooth or toothed margin. 10-30 cm long and 1-7 cm wide.

FLOWER: (June through August) **Solitary yellow head** composed of numerous **ligulate (ray, or strap-shaped) flowers**, often drying to pink. Involucre (bracts around flower head) 2-3 cm high at fruit, with bracts arranged in an overlapping, spiral manner.

FRUITS: Achene is 8-10 mm long, **beak** of about equal length, pappus (hair-like calyx around achene) 12-14 mm long.



***Anemone nuttalliana* (ANNU)**
Pasqueflower, windflower
Buttercup family (*Ranunculaceae*)

RANGE AND HABITAT: Cle Elum and Leavenworth Ranger Districts. AK to Wenatchee Mts., WA, e. to Alberta, s. through MT to TX, and to IL. Mainly on alpine slopes with well-drained soils, 5,000 to 6,000'.

SIMILAR SPECIES: *A. occidentalis* is found in the same habitat, but has smaller, fern-like leaves, the flower is usually white, and the long, silky styles of the seed head hang down instead of standing out.

IDENTIFICATION TIPS: Note leaflet length, flower color, and whether seed head plumes hang down, or stand out in a ball.

REMARKS: "Anemone" is from the Greek "anemos", meaning wind. "nuttalliana" was after the North American collector, Thomas Nuttall. A closely related species was used by some Native Americans as a counter-irritant poultice for cuts and bruises.



Jim Riley

Anemone nuttalliana

Ranunculaceae

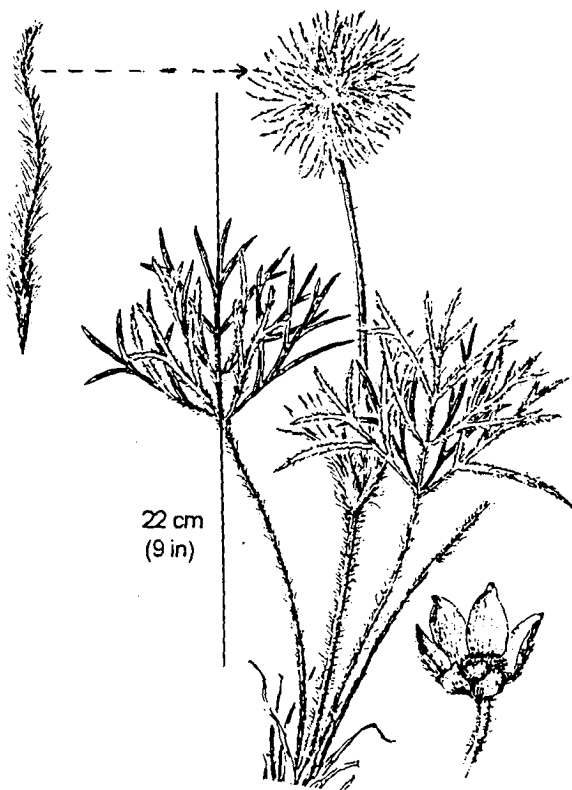
Pasqueflower, windflower

DESCRIPTION: A 1 to many-stemmed, usually branched perennial, .5-2.5 dm (2-10") tall. The plant is covered with long, soft, or coarse hairs, giving it a grayish appearance.

LEAVES: Basal leaves numerous, long-petiolate (stemmed), divided into linear segments 2-3 times, the final segment being 2.5-4 mm in width. Basal leaves usually develop after earliest flowers. Upper stem leaves lack petioles.

FLOWERS: (May through August) Petals are lacking, but the 5-7 sepals are large, showy, and petal-like, blue to purple (rarely white). Sepals are 2-4 cm long, narrowly- to roundly-oblong, and form a tall cup-shaped flower.

FRUITS: Achenes (seeds) are numerous, about 3 mm long; styles are slender and plumose, 2-3.5 mm long. The long styles form a large, fluffy ball of silky hairs.



***Antennaria parvifolia* (ANPA3)**
Nuttall's pussy-toes
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Leavenworth Ranger District. Stevens, Spokane, Chelan cos., WA; Great Plains and e. base of Rocky Mts., w. to BC, NV, AZ. Dry, open places, openings in ponderosa pine (*Pinus ponderosa*) forests, on sand and gravel substrates, often riparian in foothills of the Columbia Basin.

SIMILAR SPECIES: *A. microphylla* has smaller flower heads: Pistillate (female) flowers are 2.5-4.5 mm long, bracts at the base of pistillate flowers are 4-7 mm high.

IDENTIFICATION TIPS: Note growth habit, length of pistillate flowers and bracts.

REMARKS: "Antennaria" means "insect antennae" or "everlasting", the latter probably referring to the longevity of the flower head. The Okanagan-Colville Indians used leaves from *A. microphylla* to increase male virility, and the roots to revive dancers and drive away bad spirits during dance rituals.



Antennaria parvifolia

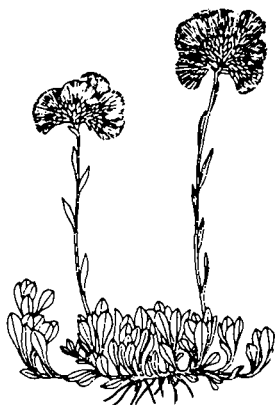
Asteraceae; Compositae

Nuttall's pussy-toes

DESCRIPTION: A **mat-forming**, stoloniferous (creeping-stemmed) perennial, up to 15 cm (6") tall, with unbranched stems.

LEAVES: Basal leaves numerous, spatula-shaped, 1-3.5 cm long, 2.5-10 mm wide, with dense hairs on both upper and lower surfaces. 1-8 narrow, lance-shaped leaves clasp the flower stems.

FLOWERS: (May through August) Flower heads are whitish, often tipped with pink, dense, and brushy, hence the name "pussytoes". The dry pistillate flowers are 5-8 mm long; bracts of the pistillate flowers are 7-11 mm high.



15 cm
(6 in)

Astragalus arrectus (ASAR)

Palouse milk-vetch

Pea family (*Fabaceae*; *Leguminosae*)

RANGE AND HABITAT: Entiat Ranger District. Regional endemic; Columbia Basin and especially the Palouse country, WA, also w.c. ID. Grassy hillsides, sagebrush flats, river bluffs to open pine forests.

SIMILAR SPECIES: There are many similar species of *Astragalus*. Look for a plant with all parts erect. Banner (upper petal) is smaller than wing petals; calyx (sepals) is 5-6.5 mm long, and each sepal point is about 1.5 mm long. These features will ensure the plant is in the group which includes *A. arrectus*, and should be positively identified.

IDENTIFICATION TIPS: Note length of calyx and points.

REMARKS: "Astragalus" is probably from the Greek "astragalos", ankle bone, possibly referring to the curved seed pod. *A. arrectus* is one of many types of locoweed, most of which are poisonous to livestock, who usually avoid grazing it. Okanagan-Colville Indians used the *Astragalus* bloom as an indicator that pine tree cambium was ready for harvest. There have been no recent sitings.

Ownbey Herbarium/WSU



Astragalus arrectus

Fabaceae; Leguminosae

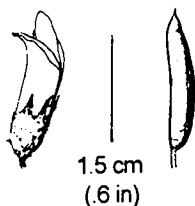
Palouse milk-vetch

DESCRIPTION: Perennial, 2-4 dm (8-16") tall, with numerous stems in clumps. The plant is usually covered with hairs (except for the leaf surface) giving it a greyish-green appearance. **Leaves, flowers, and pods are pea-like and erect.**

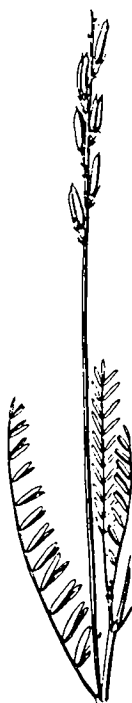
LEAVES: 9-22 cm long and odd-pinnate, being divided into 21-31 leaflets. The leaflets are 8-22 mm long.

FLOWERS: (May through June) Yellowish-white, drying to yellowish. The calyx is 5-6.5 mm long, with 1.5 mm long points. Flowers are 12-15 mm long; wing petals about 2 mm longer than the re-curved banner, keel (lower petal) is 10-10.5 mm long.

FRUITS: The nearly straight pods are 15-23 mm long, 2.5-6.5 mm thick, with a thin ridge (suture) running down the front (ventral) side. The erect pods are attached to the flower stem by 2.5-6 mm long stalks.



20 cm
(8 in)



Stewart Janes



Botrychium lanceolatum

D.H. Wagner



Botrychium pinnatum

Ed Alverson



Botrychium montanum

***Botrychium* species (*B. lanceolatum*, *B. lunaria*, *B. minganense*, *B. montanum*, *B. pinnatum*, *B. simplex*)**

Grape-fern, moonwort (BOTRY)

Adder's tongue family (*Ophioglossaceae*)

RANGE AND HABITAT: Chelan, Cle Elum, Lake Wenatchee, Naches Ranger Districts. Scattered in WA, some circumboreal. *B. lanceolatum* (760-6,000'), *B. minganense* (2,000-5,600'), *B. montanum* (1,600-2,700') are often in old growth western red cedar (*Thuja plicata*), moist sites, and mossy slopes, ridges, and benches. *B. lunaria* is in deep, shaded forests at low to mid-elevations. *B. pinnatum* (2,100-6,500') is in moist deciduous and coniferous forest (also *B. minganense*), and dry alpine ridgetops. *B. simplex* is in mid-elevation meadows. *B. lunaria* and *B. lanceolatum* are also in subalpine meadows.

SIMILAR SPECIES: *B. virginianum* (WA State Monitor species) and *B. multifidum* are more common, fern-like species. Some small ferns resemble several of the *Botrychium* species. Ferns have sporangia along leaf margins, or on lower leaf surfaces. **Grape-ferns never have spores located directly on the leaf; instead, spores are clustered on a distinctly different stalk.** Many ferns have wiry, often dark petioles, and scales or hairs.

IDENTIFICATION TIPS: Note habitat, presence of fertile stalk, leaf shape and arrangement.

REMARKS: The Greek "botrys" means grapes, referring to the fertile stalk bearing clusters of sporangia resembling tiny grapes, hence the name "grape-fern." "Wort" (moonwort) is old English for plant.

Representative photos on other side

Grape-fern, moonwort

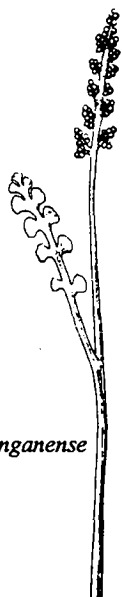
DESCRIPTION: Small, fern-like herbs with spores held in clusters on a fertile stalk. From 4 cm (1.5") to 35 cm (>13") tall. Leaves are various, but most appear spongy or succulent.

STERILE LEAF: Usually 1 pinnately compound leaf (divided into leaflets or lobes) per plant. Leaves do not have a "jointed" point of attachment to the stem as ferns do, instead the stem divides into 2 parts: The sterile leaf, and the fertile stalk. Depending upon the species, leaves are of 2 types: Once-pinnate, and 3 times-pinnate. *B. lunaria*, *B. minganense*, *B. montanum*, and to an extent *B. simplex*, are once-pinnate, with lobes fan, spoon, or block-shaped. *B. lanceolatum* and *B. pinnatum* are 3 times-pinnate, with fern-like leaves.

FERTILE STALK: (June through September) Often branched, bearing the sporangia. Some species have simultaneous development of the fertile and sterile segments; on others, the fertile stalk emerges after leaf development, if at all.

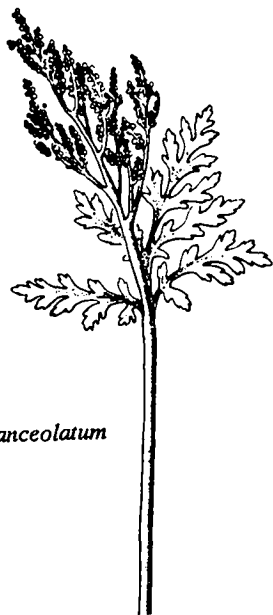
Representative drawings on other side

B. minganense

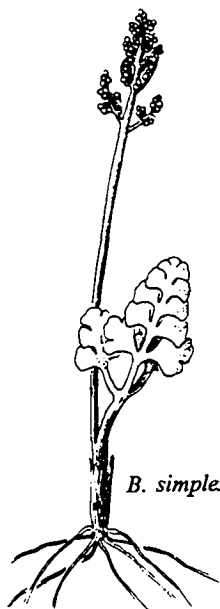


10 cm
(4 in)

B. lanceolatum

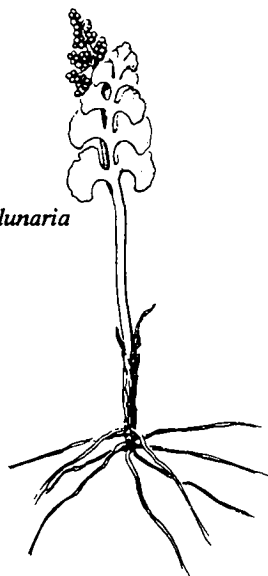


B. simplex



B. lunaria

10 cm
(4 in)



THE SEDGE FAMILY (CYPERACEAE)

The Sedge family has nearly 4,000 members, with a world-wide distribution. Many sedges grow in wet or boggy areas, often along lake and stream shores. Because these areas are commonly impacted or even eradicated by human activities, a number of species are threatened. Some of the sedges that occur in the Wenatchee National Forest are on the Regional Forester's Sensitive Species List, most belonging to the genus *Carex*.

Sedges can be difficult to identify because of the complexity of the taxonomic group, and the small size of the floral parts. Sedges are rush or grass-like plants, often with triangular stems. **Some of the terminology used to describe the floral parts of sedges, grasses, and rushes is different than that of most other plants.** To help you in identification, these parts are labeled on the reverse side.

This field guide is meant to provide only enough detail to let you decide whether or not the sedge is worth reporting as a "maybe." Final identification often requires a microscope or hand lense, and more specific detail than can be provided here. The **SIMILAR SPECIES** sections may prove to be useful chiefly to botanists, although everyone is encouraged to utilize the information.

Some important identification attributes to make note of include stigma number, achene shape, arrangement of male versus female flowers (both within each spike and in the inflorescence), spike number, whether the inflorescence is erect or nodding, and leaf size and distribution. As with all rare plants, if you suspect that you have found one of the following sedges, please report it to your District Botanist or Forest Botanist.

TERMINOLOGY FOR *CAREX* (SEDGE) SPECIES

Achene: Dry fruit ("seed").

Awn: Slender, generally terminal bristle.

Beak: Prolonged, slender tip on a fruit or seed.

Bract (floral): A specialized leaf associated with an inflorescence or with a single flower.

Inflorescence: A flower cluster of a plant, or the arrangement of the flowers on a plant.

Nerve: A prominent, longitudinal vein.

Perigynium: Special bract enclosing the achene of *Carex*.

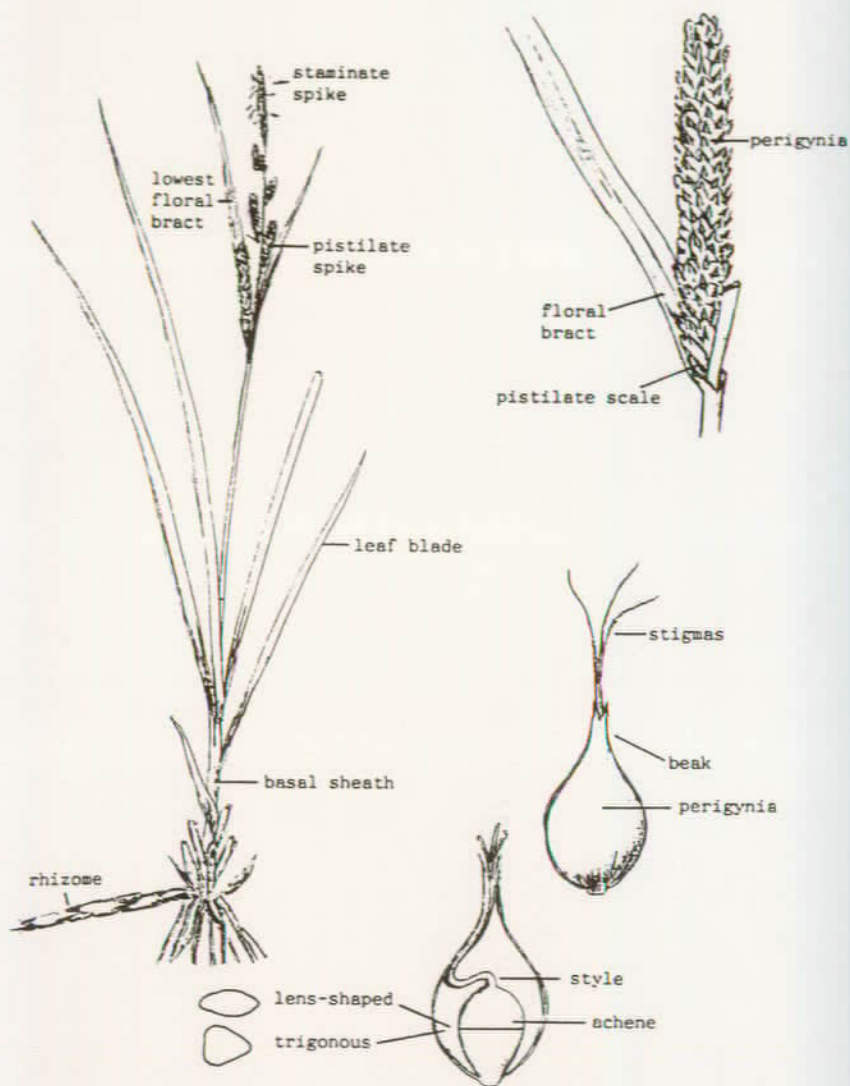
Scale (pistillate): A small, thin, flat structure; a pistillate scale is associated with a female flower.

Spike: An elongate inflorescence, with more or less sessile (stalkless) flowers.

Stigma: Part of the pistil (female) which is receptive to pollen; in *Carex*, frequently appears as 2 or more thread-like structures extending from the style.

Style: Slender stalk connecting the stigma to the ovary; in *Carex*, sometimes persists as a bony projection topping the achene, or as a contorted continuation of the achene.

Illustration of Sedge Structures



***Carex buxbaumii* (CABU3)**

Buxbaum's sedge

Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Cle Elum and Lake Wenatchee Ranger Districts. C. WA, s. to c. CA, UT, CO, NC; Eurasia; circumboreal. Bogs, marshes, lake margins.

SIMILAR SPECIES: *C. scopulorum* var. *bracteosa* and *C. prionophylla* have convex achenes and a terminal male spike. *C. spectabilis* is lacking the prominent awn on the scales; the uppermost spike is either male or male and female. *C. arcta* has an inflated perigynium, with the terminal spike male. (*C. buxbaumii* has a 3-sided achene, with female flowers above male on the same terminal spike.)

IDENTIFICATION TIPS: Look for gynaeandrous terminal spike (female above male flowers); note length of spikes, length of awn on pistillate scale, plant height.

REMARKS: *C. comosa* belongs to a group of sedges that have 3 stigmas, a 3-sided achene, and cylindrical spikes.



Terry Lillybridge/USFS

Carex buxbaumii

Cyperaceae

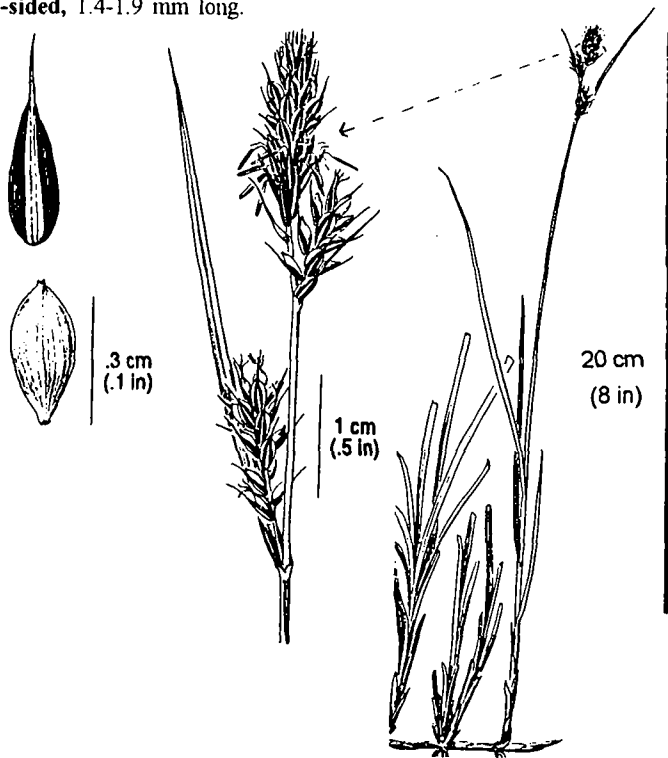
Buxbaum's sedge

DESCRIPTION: Stems single or few, 3-10 dm (12-40") tall, rising well-spaced from vigorous, creeping rhizomes. **Previous year's stem sheaths often persist adjacent to, not on, new stems.**

LEAVES: Hairless, elongate, 2-4 mm wide. The lowest leaf is scale-like.

FLOWERS: (June through August) Spikes 2-5. **Terminal spike is gynaeceandrous, 1-3 cm long.** Lateral spikes entirely pistillate (female), with a sheathless bract subtending (and shorter than) the lowest spike. Pistillate scales lance-shaped, brown to purplish-black, tipped by a 0.5-3 mm long awn.

FRUITS: Perigynium is 2.7-4.3 mm long, light gray-green, with prominent marginal nerves, and covered with minute warts (papillae) when viewed with a lens. **Beak on perigynium absent or very short. Stigmas are 3. Achene is 3-sided, 1.4-1.9 mm long.**



Carex comosa (CAC05)
Bristly sedge
Sedge family (Cyperaceae)

RANGE AND HABITAT: Lake Wenatchee Ranger District near Fish Lake. W. and s. of Puget Sound, also Chelan, Spokane and Walla Walla cos., peripheral in WA; s. to Gulf Coast states and CA. Marshes, lake margins, drainage ditches, rivulets, wet meadows, and other wet places.

SIMILAR SPECIES: *Carex lystracina*, which should also be reported, also has pendant, nodding spikes, but the teeth on the perigynium beak are shorter (0.2-0.9 mm). *C. atherodes* has elongated perigynium teeth but the spikes are more narrow and erect; leaves and stems are hairy. *C. utriculata* is lacking long, divergent teeth on the beak; spikes are more erect (looks like a corn cob). (*C. comosa* has 1.2-2.3 mm perigynium teeth and drooping spikes.)

IDENTIFICATION TIPS: Look for cylindrical, "bottle brush", drooping spikes, the terminal one male, lateral ones female; also note stigma number, and length of the divergent perigynia teeth.

REMARKS: "comosa" means long haired, probably referring to the sedge's bristly appearance caused by the elongated perigynium teeth and protruding styles.

Terry Lillybridge/USFS



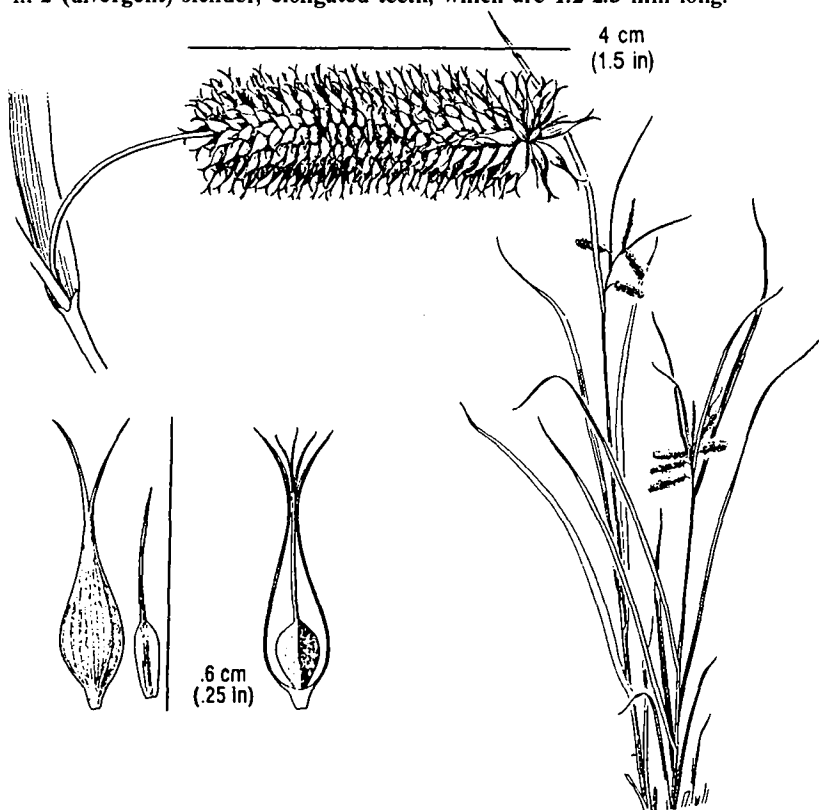
Bristly sedge

DESCRIPTION: A tall perennial, 5-10 dm (20-40"), with 2 or more **large, nodding spikes that have a "bottle brush" appearance**; stems are coarse, densely clustered from a short, stout rhizome.

LEAVES: Long and flat, 4-11 mm wide. Leaf directly below the spike is elongate, often much longer than the inflorescence (flowering part of stem).

FLOWERS: (May through August) Each spike is tan color, 2-7 cm long and 1.5 cm thick. **Terminal spike is male; several lateral spikes are female, and are drooping.** Stigmas are 3 per flower.

FRUIT: The achene is 3-sided, and topped by a continuous, persistent style, of the same bony texture as the achene. The perigynium is hairless, and ends in 2 (divergent) slender, elongated teeth, which are 1.2-2.3 mm long.



***Carex macrochaeta* (CAMA4)**

Large-awn sedge

Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Skamania, Grays Harbor, King, and Whatcom cos., scattered in WA; n. to AK and n.w. coast of Asia. Seepage areas, around waterfalls, and other wet, open places; 600-3,200' elevation.

IDENTIFICATION TIPS: Look for 3 stigmas, 3-sided achenes, cylindrical spikes with the terminal one male.

SIMILAR SPECIES: *C. limosa* and *C. paupercula* also have yellowish-brown felt covering their roots, but their pistillate scales are lacking awns, or have only very short awns; the perigynia are lense-shaped (*C. macrochaeta* has awns 2 mm-1 cm long, and an elongated perigynium). *C. paupercula* should also be reported.



Lois Kemp/USFS

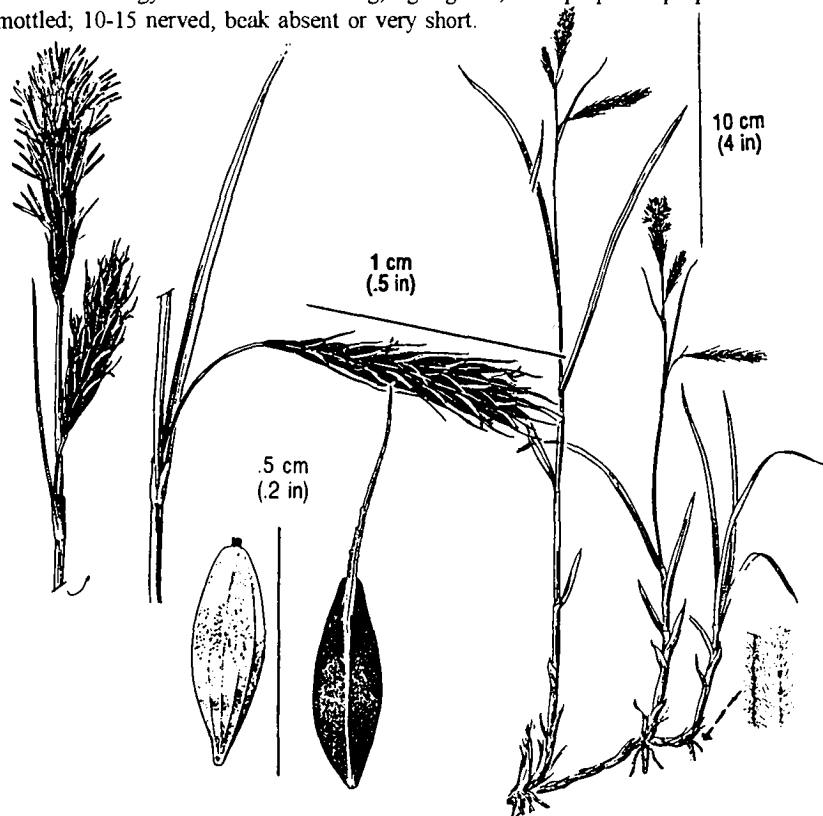
Large-awn sedge

DESCRIPTION: Leafy stems loosely clustered on a system of short, branching rhizomes, 1-7 dm (4-28") tall; **roots are covered with a yellowish-brown felt.**

LEAVES: Flat, mostly 2-5 mm wide, stem leaves few. The lowest floral bract equals or surpasses the flowering stem.

FLOWERS: (June to August) Spikes are cylindrical; **terminal one is male, lower 2-4 spikes female**, 1-3 cm long, the lowest ones slender and nodding on a flexuous, often elongate stem, spikes somewhat widely spaced. Pistillate scales black or dark brown, **distinctly awn-tipped**, the awn 2 mm-1 cm long.

FRUITS: Perigynium 3.3-4.8 mm long, light green, dark purple or purple mottled; 10-15 nerved, beak absent or very short.



Carex paupercula (CAPA9)

Poor sedge

Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Pend Oreille Co., peripheral in WA; ID s. to CO, circumboreal. Suspected in sphagnum bogs, sedge meadows, fens, and in willow/sedge (*Salix/Carex*) or Engelmann spruce/sedge (*Picea engelmannii/Carex*) associations.

SIMILAR SPECIES: *C. limosa* has lower leaves reduced to bract-like scales, and blunt pistillate scales. *C. macrochaeta* has 2 mm-1 cm long awns on the pistillate scales. *C. pluriflora* has nearly black, short-awned pistillate scales, giving the spike a dark appearance (*C. paupercula* has well-developed lower leaves and unawned, light colored pistillate scales tapering to a narrow point). *C. macrochaeta* and *C. pluriflora* should also be reported.

IDENTIFICATION TIPS: Note leaf size, spike shape, stigma number, color and shape of the pistillate scales.

REMARKS: *C. paupercula* belongs to a group of sedges that have 3 stigmas, 3-sided achenes, and cylindrical spikes.



Reid Schuller

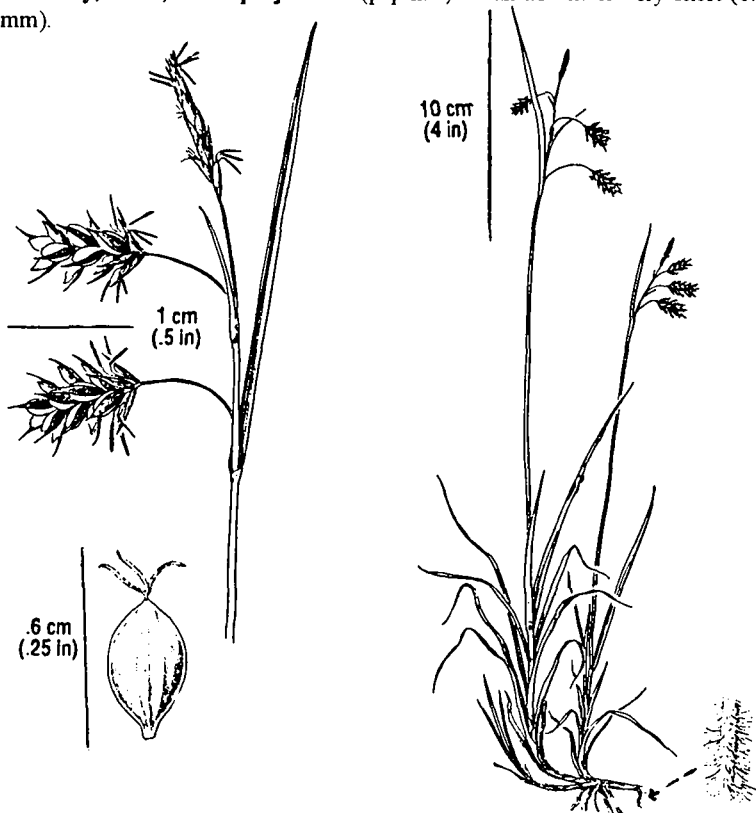
Poor sedge

DESCRIPTION: Stems loosely clustered in small tufts, 1.5-7 dm (6-28") tall, with remains of old leaves persisting around the base. The roots are covered with a yellowish-brown felt.

LEAVES: Flat, 1-3 mm wide, and hairless, with old leaves persisting at the plant base.

FLOWERS: (August) Solitary terminal male spike with 1-4 female spikes below, nodding on slender stems; spikes are cylindrical. Spikes 7-15 mm long, lowest spike with a leafy bract 2-10 cm long. Unawned scales are brown to straw-colored, and taper to a narrow point. Stigmas are 3.

FRUITS: Perigynium pale green to straw-colored and densely covered with tiny, short, blunt projections (papillae). Beak absent or very short (0.1 mm).



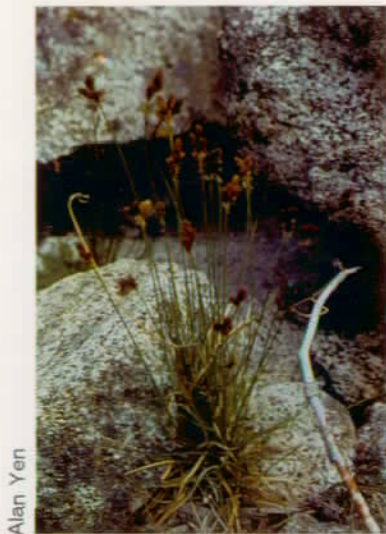
Carex proposita (CAPR9)
Smoky Mountain sedge
Sedge family (Cyperaceae)

RANGE AND HABITAT: Leavenworth Ranger District. Local in Wenatchee Mountains and mountains of ID. Open, rocky slopes and ridges, often on talus, at high elevations in the mountains, near or above timberline. On loose, granite rock at 7,700' elevation, in noble fir/larch (*Abies procera*/*Larix lyallii*) zone, with daisy (*Erigeron compositus*).

SIMILAR SPECIES: *C. phaeocephala* has a perigynium that is oblong, narrower, with the achene located midway in the perigynium instead of towards the base (as in *C. proposita*); pistillate scales more or less cover the perigynium (*C. proposita* has scales narrower than and usually equal to the perigynium).

IDENTIFICATION TIPS: Note the number of stigmas, shape of achene, if perigynium is winged; also note if female spikes are above male, and if spikes are short, compact, and stalkless.

REMARKS: Hitchcock (Vascular Plants of the Pacific Northwest, Part I) states that "It is not improbable that *C. proposita* may have originated through hybridization between the two species it resembles (*C. haydeniana* and *C. phaeocephala*), but it is not just a set of first generation hybrids, inasmuch as it occurs in the Wenatchee Mountains of Washington, where *C. haydeniana* is unknown."



Alan Yen

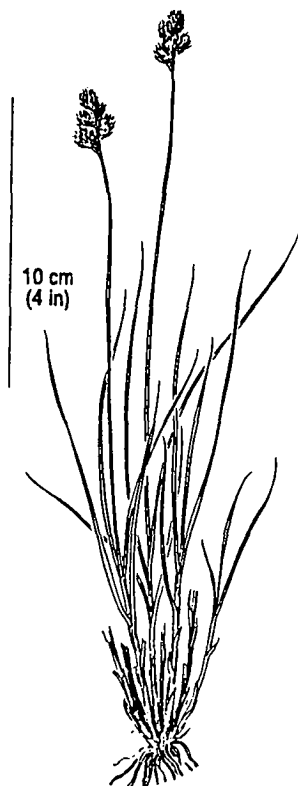
Smoky Mountain sedge

DESCRIPTION: A dwarf, clumpy perennial, 1-3 dm (4-12"), with narrow, firm leaves and densely crowded spikes; **mostly alpine**.

LEAVES: Mostly 0.5-2 mm wide, often folded or marked with a deep, longitudinal groove near the base.

FLOWERS: (Early August) Spikes number 3-6, and are **gynaecandrous** (female flowers above male, on same spike); spikes are 7-13 mm long, and **mostly sessile** (stalkless). Pistillate scales tan to medium brown, narrower than and usually equal to the perigynium.

FRUITS: The **flat, winged perigynium** has greenish margins with a tan center, 4.1-5.8 mm long and 1.7-3.1 mm wide, with toothed and winged margins; abruptly short-beaked, the beak up to 1 mm long. The achene is much smaller than the perigynium.



Carex saxatilis var. *major* (CASA2)

Russet sedge

Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Lake Wenatchee Ranger District. Clallam and Okanogan cos., peripheral in WA; to NV, UT, and CO, circumboreal. Shallow, ponded water, about 10 cm deep, with a rocky, silty, subsoil; bogs, and sedge-dominated wetlands, mid-elevation to above timberline. It has been reported from a lake margin in the silver fir (*Abies amabilis*) zone, and in alpine sites.

SIMILAR SPECIES: *C. spectabilis* is similar, but has 3 stigmas, a deciduous style, and a 3-sided achene (**russet sedge has 2 (3) stigmas, a persistent style, and an oblong, elliptic-ovate achene**).

IDENTIFICATION TIPS: Note if terminal spike is male, stigma number, if achene is 3-sided, and shape of perigynium; also note if style is persistent, with a bony texture.

REMARKS: "Saxatilis" means growing among rocks. "Russet sedge", the common name, describes the dark, reddish-brown scales on the spikes.

University of Washington Herbarium



Carex saxatilis var. *major*

Cyperaceae

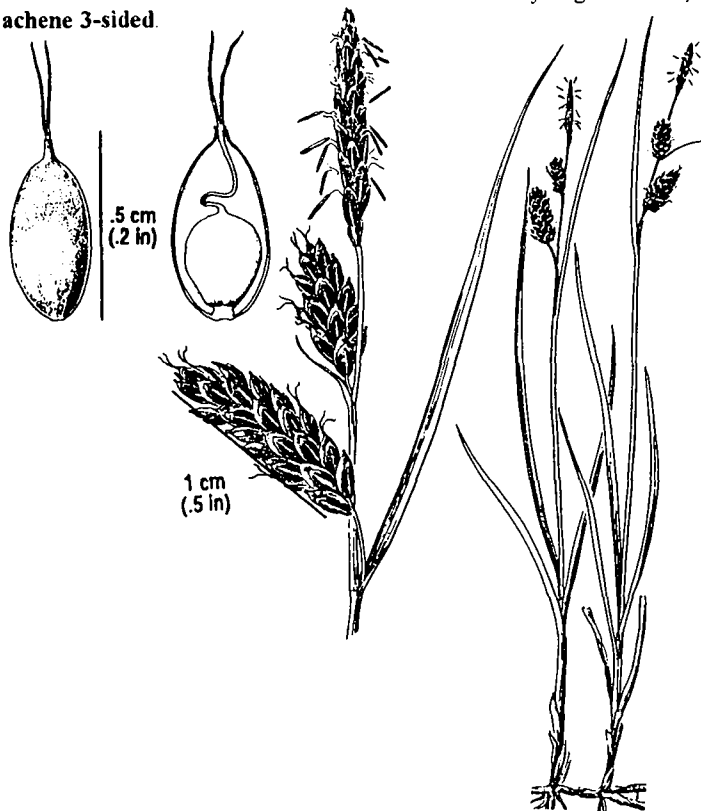
Russet sedge

DESCRIPTION: Loosely tuft-forming, with stems arising either singly or together from well-developed, creeping rhizomes, 2-8 dm (8-32") tall. **Lowest bract leaf-like, sometimes longer than the inflorescence.** Stems sharply triangular, reddish-tinged at the base.

LEAVES: 2-4 mm wide, the old leaves conspicuous at the base.

FLOWERS: (August) **Male spike is terminal**; the 1-3 densely flowered, lateral spikes are female. Scales are (dark) **reddish-brown**.

FRUITS: Achene usually oblong elliptic-ovate (lenticular). **Stigmas are usually 2**; style is continuous with the achene, has a **bony texture**, and becomes contorted as the achene matures. Occasionally stigmas are 3, and achene 3-sided.



Carex stylosa (CAST3)
Long-styled sedge
Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Olympic Peninsula, peripheral in WA; n. around continent to Labrador and Quebec. Saturated and seasonally flooded fibrous and sphagnum peat soils or sloping wetlands with surface seepage, reported in the silver fir (*Abies amabilis*) zone and mountain hemlock (*Tsuga mertensiana*) zone.

SIMILAR SPECIES: *C. raynoldsii* is similar, but has a larger perigynia (3.3-4.4 mm long), and has leaves part way up the stem (*C. stylosa* perigynium is 1.9-3.3 mm; leaves are all crowded near the base).

IDENTIFICATION TIPS: Note if style conspicuously extends from flower (in young plant), if stigmas are 3, achene 3-sided, spikes cylindrical, where leaves are located.

REMARKS: "Stylosa" means with prominent styles, referring to the flower's conspicuously exerted styles.

Clayton Antleau



Carex stylosa

Cyperaceae

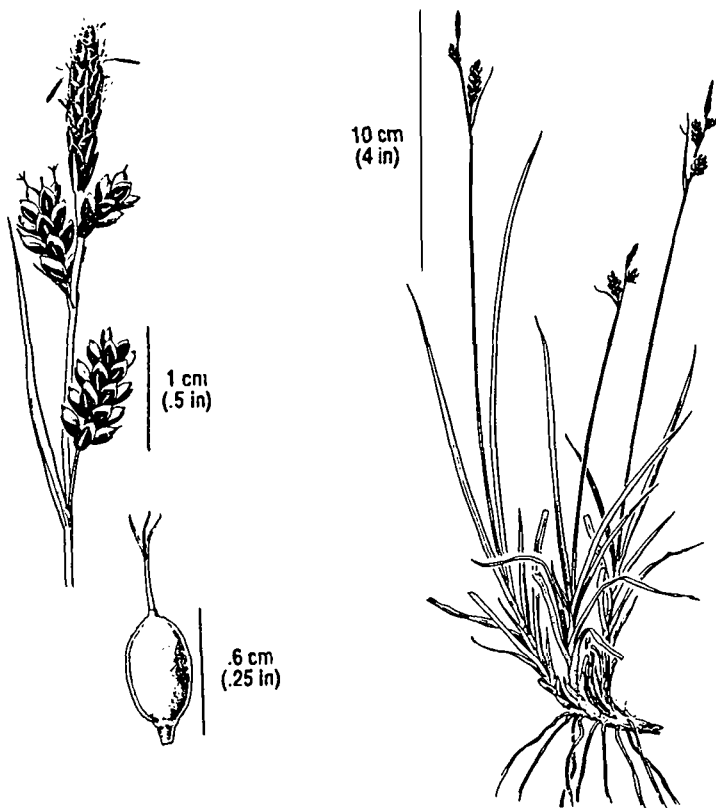
Long-styled sedge

DESCRIPTION: Densely tufted, with short, stout rhizomes, 1.5-5 dm (6-20") tall.

LEAVES: Coarse and firm, 2-4 mm wide, crowded near the base, generally shorter than the flowering stem.

FLOWERS: (August) 2-4 relatively short, cylindrical, erect spikes (0.5-1.0 cm long), the terminal spike male, or with male flowers in the upper portion. The pistillate scales noticeably purplish-black. **Style is conspicuously exerted from the flower when young, becoming deciduous with maturity. Stigmas are 3.**

FRUITS: Perigynium usually yellowish-green (or darker), 1.9-3.3 mm long, with a very short beak (0.2 mm). The achene is 3-sided, 1.6-1.9 mm long.



Carex sychnocephala (CASY)

Many-headed sedge

Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Okanogan and Pend Oreille cos., peripheral in WA; B.C. e. to MT, NY, and Ontario, Canada. Marshes, beaches, lake margins, and other wet, low ground.

SIMILAR SPECIES: *C. sychnocephala* is sharply distinct from any other N. American species because of its **distinctive floral bracts**.

IDENTIFICATION TIPS: Note plant growth habit, leaf width and placement (scattered), size of leaf-like bract at base of inflorescence.

John Gamon/WA Natural Heritage Program



Carex sychnocephala

Cyperaceae

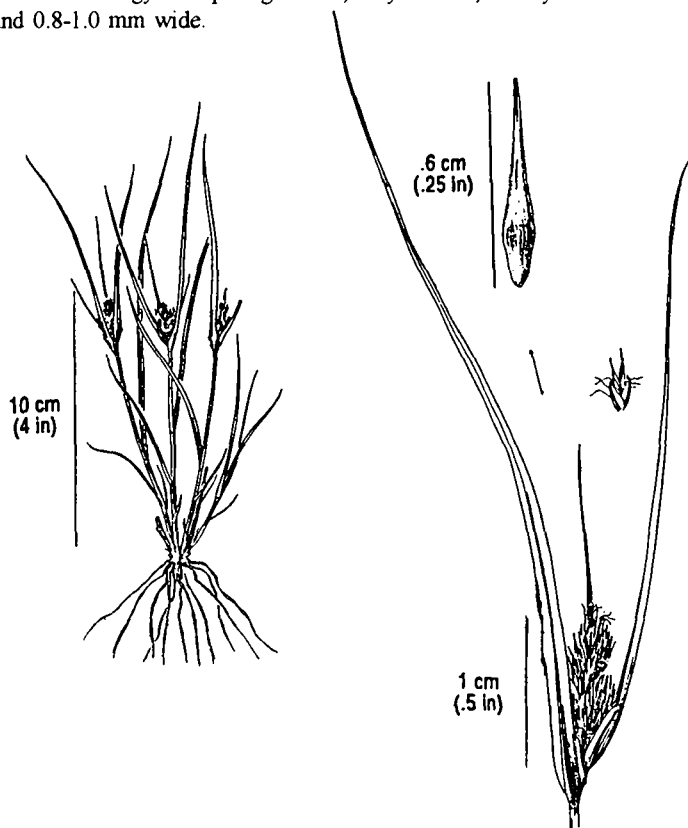
Many-headed sedge

DESCRIPTION: Tufted, without creeping rhizomes; stems are slender, 0.5-5 dm (2-20") tall, with extremely long, leafy bracts that greatly surpass the inflorescence.

LEAVES: Flat, 1-4 mm wide, few but well scattered, the upper often surpassing the stems.

FLOWERS: (June through August) Spikes are several, sessile, 1.5-3 cm long, light green, with the male spikes below the female. Bract at base of inflorescence is 8-20 cm long, and distinctly leaf-like.

FRUITS: Perigynium pale greenish, very slender, mostly 4.8-6.5 mm long and 0.8-1.0 mm wide.



Castilleja cryptantha (CACR6)
Obscure Indian paintbrush
Figwort Family (*Scrophulariaceae*)

RANGE AND HABITAT: Naches Ranger District. Apparently endemic in vicinity of Mt. Rainier Nat. Park, WA. Grass-dominated subalpine meadows, generally on level ground with stabilized, well-developed soils; 4500-6500' elevation.

SIMILAR SPECIES: May be confused with other yellow-bracted paintbrushes, although others generally have longer corollas (petals) and/or a pouched lower corolla lip. *C. cryptantha* falls into a group of perennial paintbrushes with bracts lobed 3 or more times, and with generally shorter galeas (longest undivided upper "lip" on corolla tube, associated with the stigma); *C. cryptantha* has a 4.5-7 mm galea.

IDENTIFICATION TIPS: Make note of leaf shapes, bract lobing, plant height, hairs, length of galea.

REMARKS: "Castilleja" was named for a Spanish botanist. "cryptantha" is Greek for hidden flower. All Indian paintbrushes are partial parasites on the roots of other herbs. Historic use of *C. cryptantha* is unknown, but another yellow paintbrush, *C. thompsonii*, was used by Okanagan-Colville Indians who placed dried, powdered flowers on open cuts to draw out germs.



Castilleja cryptantha

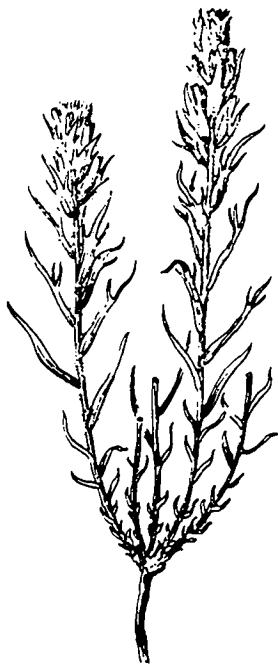
Scrophulariaceae

Obscure Indian paintbrush

DESCRIPTION: Small perennial herb with clustered stems, up to 1.5 dm (6") tall, with conspicuous flowers and bracts. **Leaves, bracts, and stems are covered with long, sticky hairs.** This small paintbrush is often hidden among meadow grasses and forbs.

LEAVES: Lower leaves linear; upper ones broader, sometimes with a pair of short, lateral lobes.

FLOWERS: (July to August) Yellow calyx (sepals) not hidden by bracts, 12-22 mm long, calyx lobes pointed. Corolla 12-16 mm long, and obscure inside of showy calyx; stigma not usually protruding beyond corolla. **Lower corolla lip is not pouched.** Galea is 4.5-7 mm long. Bracts are green to purplish-brown and covered with soft, sticky hairs. Bracts broader than leaves.



15 cm
(6 in)

***Chaenactis thompsonii* (CHTH)**
Thompson's chaenactis
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Lake Wenatchee, Leavenworth, Cle Elum Ranger Districts. Wenatchee Mountains, along the border of Chelan and Kittitas cos., unconfirmed in the s. end of the Mount Baker-Snoqualmie National Forest, WA. Serpentine, dry, rocky slopes and ridges, 1,600-2,400' elevation. Associated species are sparse and xerophytic (dry-site), generally grasses (*Poa*, *Agropyron*), buckwheat (*Eriogonum*), *Phlox*, and lupine (*Lupinus*).

SIMILAR SPECIES: *C. ramosa* and *C. douglasii* are similar in appearance to *C. thompsonii*, but are not normally found on serpentine. *C. ramosa* is distinguished by its even more relaxed stems and somewhat curled leaf segments; it should also be reported. *C. douglasii* has 1 to few upright stems (versus many somewhat relaxed stems in *C. thompsonii*).

IDENTIFICATION TIPS: Measure plant height and involucre (bracts around flower head); note growth habit, presence or absence of ray flowers, leaf characteristics, and if substrate is serpentine.

REMARKS: "Chaenactis" is from the Greek "chaino", to gape, and "actis", ray. These refer to the enlarged flower opening, and the irregular ray flowers of some species. "thompsonii" is named for the 20th century Pacific NW plant collector, J.W. Thompson. The roots of the closely related *C. douglasii* were used by Okanagan-Colville Indians to make an eye wash, and a tea for the prevention of consumption.

Terry Lillybridge/USFS



Chaenactis thompsonii

Asteraceae; Compositae

Thompson's chaenactis

DESCRIPTION: A multi-stemmed perennial herb, 1-3 dm (4-12") tall. The herbage is covered with fine, woolly hairs, giving it a whitish cast.

LEAVES: Both basal and cauline (stem) leaves are flat and obviously pinnatifid (divided into opposite segments), and up to 5 cm long. Cauline leaves grow all the way up the flowering stem.

FLOWERS: (Mid-May through August) Pink to cream. Heads are few to single on each stem, and composed of many tubular, bisexual flowers in a disk arrangement; there are no ray (strap-shaped) flowers. Involucre (bracts around flower head) is mostly 10-14 mm high.

22 cm
(9 in)



1.5 cm
(.6 in)

Cicuta bulbifera (CIBU)

Bulb-bearing water hemlock

Parsley/carrot family (*Apiaceae*; *Umbelliferae*)

RANGE AND HABITAT: Lake Wenatchee Ranger District. Island, Whatcom, Stevens cos., WA; Newfoundland to VA, w. to n. Saskatchewan, n. Alberta, BC, and s. OR. Marshes, bogs, wet meadows, other wet areas, from plains and lowlands to mountain valleys.

SIMILAR SPECIES: Our common water hemlock, *C. douglasii*, has similar flowers and fruits, but lacks bulbils at the stem and leaf joints (axils), and has much larger, serrated leaves, both basal and cauline (stem). Other species in the family *Umbelliferae* look similar to *C. bulbifera*, but tend towards drier habitat, and also lack bulbils.

IDENTIFICATION TIPS: Note if bulbils are present at axils of leaf and stem; measure leaf segment length.

REMARKS: Water hemlock is extremely poisonous, and should be handled with great caution; the bottom portion of one plant is said to be enough to kill a cow. Native Americans used the powdered root as an arrow poison.

Wenatchee National Forest



Cicuta bulbifera

Apiaceae; Umbelliferae

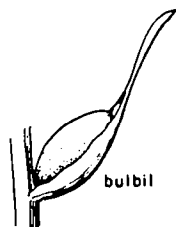
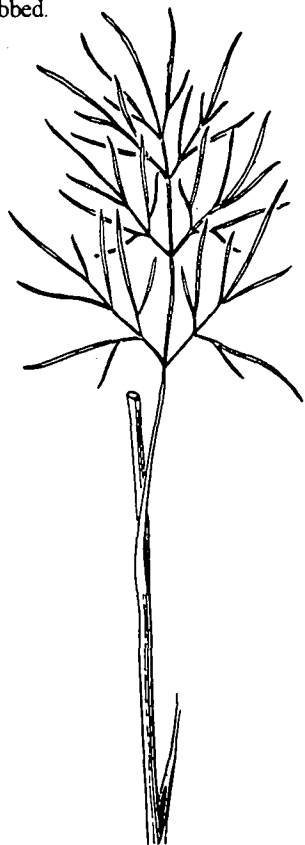
Bulb-bearing water hemlock

DESCRIPTION: A single-stemmed, slender perennial, 3-10 dm tall (12-40"). **Bulbils (small bulbs) located in the axils of at least the upper leaves and stem.**

LEAVES: All are cauline. Lower and middle leaves finely dissected with narrowly linear segments, mostly 0.5-1.5 mm wide, 0.5-4 cm long. Upper leaves smaller, sometimes undivided.

FLOWERS: (August through September) White or greenish-white, very small. Flowers arranged in a compound umbel (a larger, loose cluster of smaller clusters), similar to those of carrot or dill. **Flowers are often absent.**

FRUITS: Capsular fruit is orbicular (circular) in outline, 1.5-2 mm long, and ribbed.



10 cm
(4 in)



Cryptogramma stelleri (CRST)

Steller's rock-brake

Fern Family (*Polypodiaceae*)

RANGE AND HABITAT: Chelan and Leavenworth Ranger Districts. Pend Orielle and Kittitas cos., WA; circumboreal, from AK to Newfoundland and Labrador, n.e. NV, CO, IA, NJ. Moist, shaded cliffs, ledges, and rocky slopes at mid and upper elevations in mountains; crevices and ledges on limestone cliffs.

SIMILAR SPECIES: *Aspidotis densa* grows on dry sites, but has more sharply pointed fronds that are usually all fertile. *Cheilanthes gracillima* can be found on limestone cliffs, but the fronds are not dimorphic (vegetative and fertile fronds look different), and the pinnae (leaflets) are hairy underneath.

IDENTIFICATION TIPS: Make note of frond and pinnae (leaflet) measurements, and note dimorphic characteristics.

REMARKS: "cryptogramma" is Greek for hidden (kryptos) line (gramma), referring to the inrolled leaf margins hiding the spores.

Bob Moseley/ID Conservation Data Center



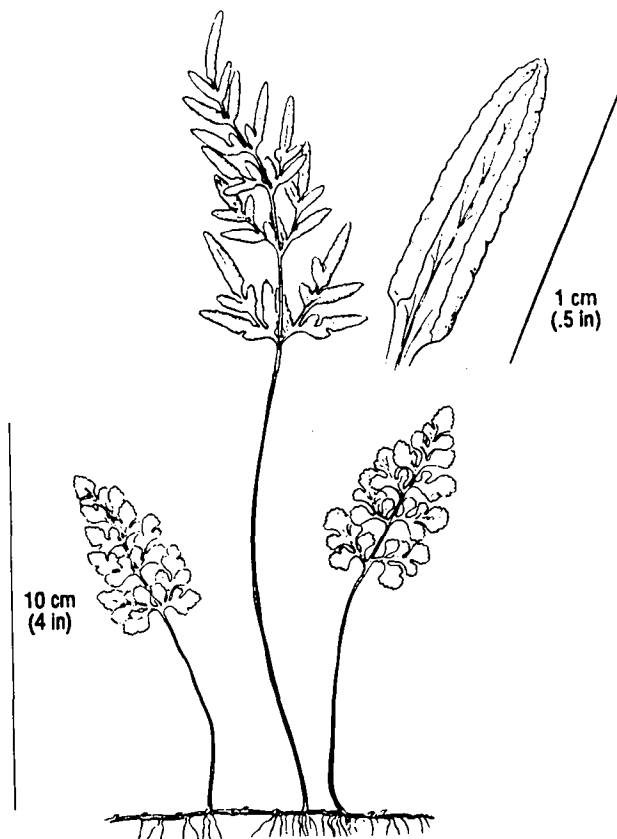
Cryptogramma stelleri

Polypodiaceae

Steller's rock-brake

DESCRIPTION: A delicate, slender perennial fern, 5.5-23 cm (2-9") tall, with **scattered, dimorphic fronds**. Lower portion of petiole (leaf stalk) is reddish-brown or dark purple; top portion is greenish or straw-colored. Fronds are scattered along a slender, scaly rhizome.

LEAVES: (Fronds are dimorphic in June) Both types of fronds have **deeply divided pinnae**. Vegetative frond 2-3 times divided; the final segments are fan-shaped to ovate, 5-15 mm long and 3-10 mm wide. Fertile frond also divided, but final segments are long and narrow, 2 mm long and 3-5 mm wide; pinnae margins are inrolled (indusium), covering the spores, but rarely meeting in the middle. Petiole is often obviously longer on the fertile frond.



Cypripedium (calceolus var.) parviflorum (CYPA)

Yellow lady's-slipper

Orchid Family (*Orchidaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Scattered in WA, Okanogan and Spokane cos; rare from B.C. to OR, e. of Cascades to ID, WY, UT, CO, NY, and much of e. Canada and US. Bogs, damp, mossy woods, seeps, moist meadows. In ID, associated with birch, willow, and alder.

SIMILAR SPECIES: *C. montanum* has similar leaves and flowers, but the flower lip is white to purplish-tinged (not yellow) and not mottled. Foliage may be confused with the following lilies: *Smilacina*, *Disporum*, and *Streptopus*.

IDENTIFICATION TIPS: Do not collect. Make note of flower color, size.

REMARKS: WA State Endangered. "Cypripedium" is Greek, "kypis" meaning Venus, and "pes" meaning foot, a reference to the pouched, slipper-like lip petal. Native Americans made a tea out of the herbage of the similar *C. montanum* that was drunk by pregnant women to ensure a small baby. Over-collecting for gardens has been a source of depletion for all of the showy orchids, which have low transplant survival rates.



Peter Lesica



Habitat - Jill Blake/USFS

Cypripedium parviflorum

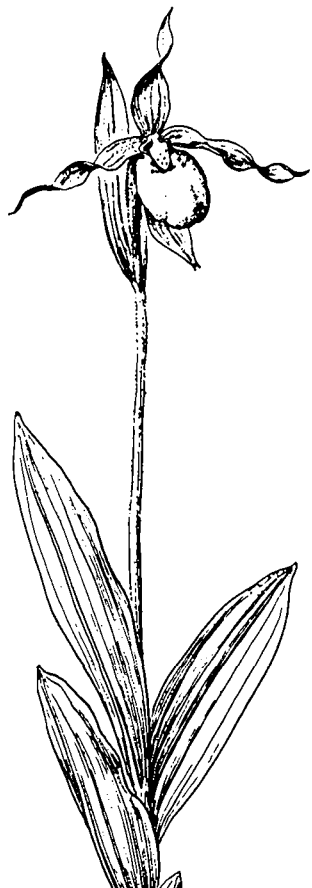
Orchidaceae

Yellow lady's-slipper

DESCRIPTION: A very showy perennial orchid, 1.5-4 dm (6-16") tall, and sparsely hairy throughout. Lower part of stem is sheathed; leaves can grow up entire length of stem.

LEAVES: Alternate, oblong-elliptic, 6-7 cm long. Leaves are "ribbed" (marked with parallel veins).

FLOWERS: (May through June) The protruding, pouched lip is yellow, often purple around the opening; 3 long, somewhat twisted sepals are greenish-yellow to purplish-brown. Usually 1 flower, occasionally 2.



15 cm
(6 in)

Cypripedium fasciculatum (CYFA)

Clustered lady's-slipper

Orchid family (*Orchidaceae*)

RANGE AND HABITAT: Naches, Leavenworth, Lake Wenatchee, Cle Elum Ranger Districts. Chelan, Klickitat, Skamania cos., scattered in WA; s. B.C. to s. CA, e. to other western states. Low to upper elevations (460-4,500') in moist to rather dry, rocky, open coniferous forest. In WA, often associated with Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). In ID, often associated with western red cedar (*Thuja plicata*) and occasionally grand fir (*Abies grandis*).

SIMILAR SPECIES: Leaves can be confused with the generally smaller ones on the twayblade orchid (*Listera*); twayblade stem is usually hairy above the leaves, hairless below (*C. fasciculatum* is usually hairy below the leaves). The flowers of *C. fasciculatum* are unique.

IDENTIFICATION TIPS: Note leaf number and shape, hairs on stem, flower number, color, and plant height.

REMARKS: WA State Threatened. "Cypripedium" is Greek, "kypis" meaning Venus, and "pes" meaning foot, referring to the slipper-like lip petal. "fasciculatum" means clustered, describing flowers clustered atop a single stem. Native Americans made a tea out of the similar *C. montanum* that was drunk by pregnant woman to ensure having a small baby. Overcollecting for gardens has been a source of depletion for all of the showy orchids, which have low transplant survival rates.

Robert Steele



Cypripedium fasciculatum

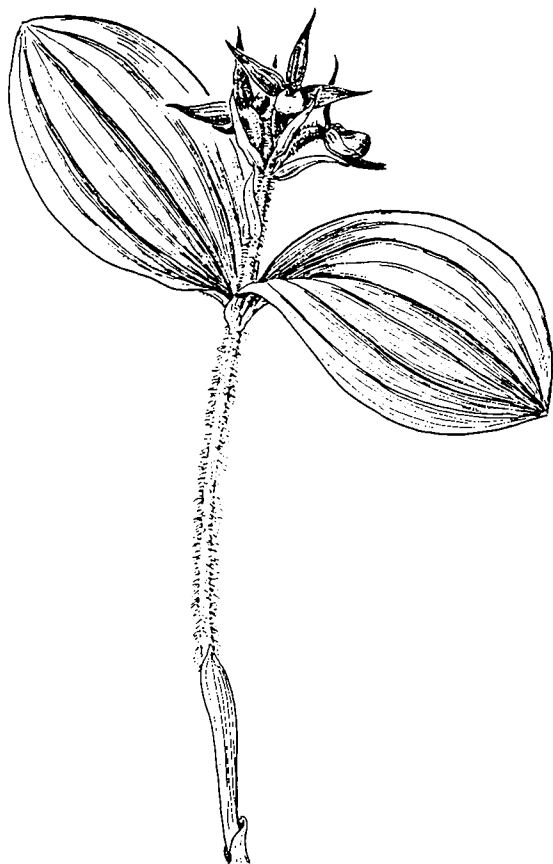
Orchidaceae

Clustered lady's-slipper

DESCRIPTION: Perennial, 0.5-2 dm (2-8") tall, with 2-4 flowers topping a single stem. A single, sheathing bract usually clasps the lower stem, and a pair of leaves is located at, or above, stem midlength; **the stem is hairy primarily below the leaves.**

LEAVES: The single pair of leaves are fairly large, and broadly elliptic in shape. They are marked with several parallel, longitudinal "ribs."

FLOWERS: (April through July) Sepals and petals are greenish-brown or greenish-purple, and often purple mottled. The large, pouched lip is greenish-yellow with purplish margins.



20 cm
(8 in)

Delphinium viridescens (DEVI)

Wenatchee larkspur

Buttercup family (*Ranunculaceae*)

RANGE AND HABITAT: Cle Elum and Leavenworth Ranger Districts. Local endemic in the Wenatchee Mountains, Chelan and Kittitas cos., WA. Moist microsites in open coniferous forests; springs, seeps, riparian areas, where there is surface water or saturated upper soil layers spring to early summer, drying in late summer, 1,800-4,200'.

SIMILAR SPECIES: The greenish flowers of *D. viridescens* separate it from all other species, although it may be confused with the foliage of *D. multiplex* and *Aconitum* species (monkshood) when not in flower.

IDENTIFICATION TIPS: Do not collect any part of this plant. If the flower is present, identification is unmistakable because of the color. Note height of plant, leaf size and lobing characteristics, flower color.

REMARKS: WA State Endangered; Federal Candidate, Category 1. This is a very rare species, endemic to the Wenatchee Mountains. "Delphinium" is the Latin form of the Greek name "delphinion", meaning larkspur. "viridescens" means becoming green, referring to the flower color.

Wenatchee National Forest



Delphinium viridescens

Ranunculaceae

Wenatchee larkspur

DESCRIPTION: A stout perennial from short heavy rootstalks, stems usually several, up to 2 m (6.6') tall.

LEAVES: Basal and lower cauline leaves palmately lobed, long-petiolate, the blade up to 10 cm broad, divided into 3-5 main lobes and divided again once or twice into rounded segments. Upper cauline leaves linear to bract-like.

STEMS: Hollow, with dense, sticky (glandular), yellow hairs on upper stem.

FLOWERS: (Late May to mid-August) Greenish-bronze with purplish-yellow streaks, not particularly showy. The long spur is generally reddish-purple, 7-10 mm long. Flowers also with yellowish hairs.

A botanical illustration of Delphinium viridescens. On the left is a full plant showing a root system with several stems, one of which is tall and slender with small flowers. In the center is a large, detailed drawing of a palmately lobed leaf with a long petiole. To the right of the leaf is a vertical scale bar labeled '10 cm (4 in)'. Further right are two smaller details: a flowering stem with several flowers and a close-up of the glandular, hairy stem surface.

***Eleocharis atropurpurea* (ELAT)**
Purple spike-rush
Sedge family (*Cyperaceae*)

RANGE AND HABITAT: Suspected in the Wenatchee National Forest, Lake Chelan, WA, irregular in U.S.; Lk. Osoyoos in B.C., pantropical. In wet places, along lake shores.

SIMILAR SPECIES: *E. palustris* is a larger, widespread perennial with achenes 1.5-2.5 mm and anthers 1.3-2.5 mm long. Similar common annuals are *E. acicularis* and *E. bella*, each with 3 stigmas; *E. ovata*, 2 stigmas, but with straw-colored achenes. (*E. atropurpurea* has dark, 0.5-0.6 mm long achenes, 0.25-1 mm long anthers, and is a non-rhizomatous annual).

Eleocharis is distinguished from *Carex* by the lack of a perigynium; spirally arranged, bristly scales at achene base; absence of grass-like leaves.

IDENTIFICATION TIPS: Check for a triangular stem, note plant height, achene and scale length, color of achene, growth habit.

REMARKS: "Eleocharis" is Greek, "helos" meaning marsh, "charis" meaning grace. "atropurpurea" means very purple, referring to the color of the spikelet (head), or the achene (seed). The similar *E. palustris* was used by the Okanagan-Colville Indians for bedding, pillows, and sweathouse seating.



Dr. Francis J. Menapace

Eleocharis atropurpurea

Cyperaceae

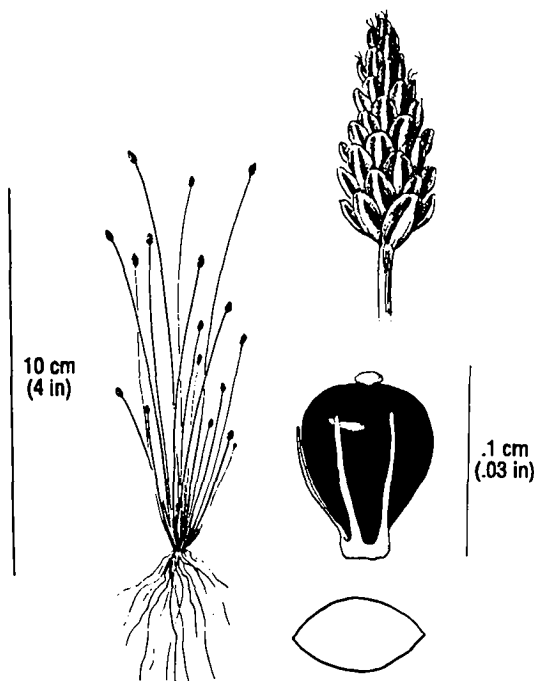
Purple spike-rush

DESCRIPTION: A diminutive, tufted annual, up to 1 dm (4") tall, and growing in a clump. The stems are triangular. Spikelets are solitary and terminal on unbranched stems.

LEAVES: In all *Eleocharis* species the leaves are basal, and are reduced to mere sheaths, or scarcely sheathing bracts.

FLOWERS: Brownish to purplish. Flowers are borne in the axils of spirally arranged scales. Scales are 1-1.5 mm, the lowest ones generally empty of floral parts. Stamens usually 3, anthers generally 0.25-1 mm long. Stigmas 2; styles are either 2- or 3-sided. The thickened base of the style persists on top of the achene as a sharply differentiated cap (tubercle). There are no bracts subtending the base of the spikelet.

FRUITS: The achenes are black to dark cherry red, and convex; they are generally 0.5-0.6 mm long.



Epipactis gigantea (EPGI)
Giant helleborine
Orchid family (*Orchidaceae*)

RANGE AND HABITAT: Chelan and Naches Ranger Districts. Infrequent in WA, but on both sides of Cascade Mtns.; B.C., s. to Baja CA, and in most of w. US to the Rocky Mts.. Streambanks, lake margins, around springs and seeps, especially near thermal waters; often in otherwise very dry, sometimes impacted areas.

SIMILAR SPECIES: *E. helleborine* was introduced from Europe and is reportedly established on Vancouver Island and in Lewis and Clark cos., WA; flower is smaller, with sepals generally under 12 mm long; lip is 10-15 mm long. The foliage of *Cypripedium* (lady's-slipper) and the lilies *Smilacina* (false Solomon's seal), *Disporum* (fairy-bell), and *Streptopus* (twisted-stalk) are also all similar.

IDENTIFICATION TIPS: Make note of flower color; confirm that flower is an orchid (will have a lower lip petal and 2 wing-like sepals); note leaf and flower measurements.

REMARKS: "Epipactis" is said to be from "epipaktis", the ancient Greek name for hellebore. "Hellebore" itself stems from a Greek word meaning plant eaten by fawns (beasts). "gigantea" refers to a large size, probably of the plant itself.

Wenatchee National Forest



Epipactis gigantea

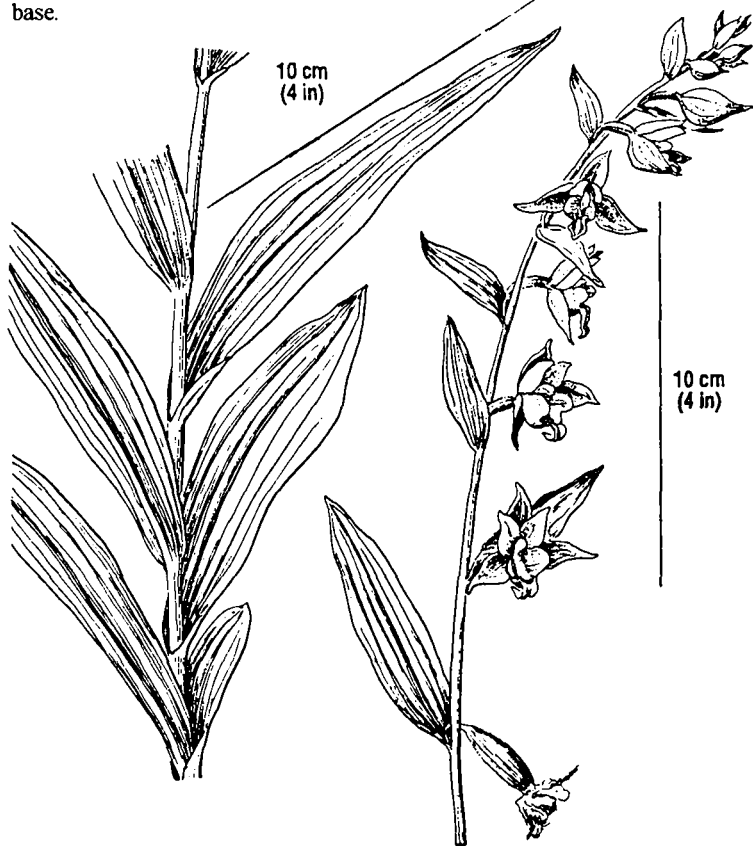
Orchidaceae

Giant helleborine

DESCRIPTION: Stems 1 to many from short rhizomes, 3-7 dm (12-28") tall. Leaves are numerous. **Flowers usually arranged on only one side of the stem.**

LEAVES: Broadly oblong-lanceolate; 7-14 cm long, 1.5-5 cm broad. Leaves grow up entire stem and are sheathing. Lowest blades are reduced to sheaths. Leaves are "ribbed" (marked with parallel, longitudinal veins).

FLOWERS: (April through July) Overall color of the 3-15 flowers is salmon-pinkish. Sepals are coppery-green with brownish veins, 12-16 mm long; the lip (lower petal) is a similar color, 15-20 mm long, with more brownish-purple venation. The sac has prominent purple lines leading to the base.



Eritrichium nanum var. *elongatum* (ERNAE)

Pale alpine forget-me-not

Borage family (*Boraginaceae*)

RANGE AND HABITAT: Chelan Ranger District. Chelan and Okanogan cos. in WA; circumboreal, s. to s. Rocky Mountains, MT, and n.e. OR. Open, rocky places at high elevations, 7,300-8,300'.

SIMILAR SPECIES: This is the only *Eritrichium* in WA. *Myosotis* species have similar flowers and fruits, but the inflorescence is curled into a helix, and plants are not cushion-like. Other similar species are either white, or do not grow in the same rocky, high elevation habitat.

IDENTIFICATION TIPS: Make note of plant height and growth habit, leaf size, whether or not the inflorescence curls into a helix, flower color, and habitat and elevation.

REMARKS: "Eritrichium" is from 2 Greek words meaning wool and hair, descriptive of the plant's wooly hairs. "nanum" means small or dwarf, probably referring to the plant's small size, which is typical of high elevation cushion-type species.

Joseph Arnett



Eritrichium nanum var. *elongatum*

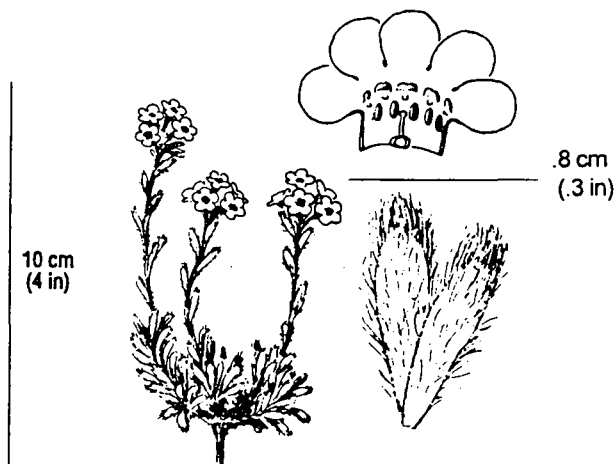
Boraginaceae

Pale alpine forget-me-not

DESCRIPTION: A woolly-hairy, long-lived perennial, with more or less erect, slender, leafy stems up to 1 dm (4") tall, and crowned with flowers.

LEAVES: Loosely covered with long hairs, hairs forming a fringe at the leaf tips. Blades are oval-elongate, up to 1 cm long, 2 mm wide.

FLOWERS: (June through August) Blue with a yellow eye. Petals number 5, are 4-8 mm wide, and are fused together.



***Geum rossii* var. *depressum* (GEROD)**

Ross avens

Rose family (*Rosaceae*)

RANGE AND HABITAT: Leavenworth Ranger District. Local endemic, Wenatchee Mountains, Chelan and Kittitas cos., WA. Rocky bluffs, rock crevices, talus slopes and serpentine up to 8,500'. Associated species include saxifrage, fern, sandwort, grass and sedge (*Heuchera cylindrica*, *Polystichum lemmonii*; *Arenaria*, *Poa*, and *Carex* species).

SIMILAR SPECIES: There are 3 varieties of *G. rossii*, but the most similar, var. *rossii*, inhabits a different geographical area. Other *Geum* species have leaves with terminal leaflets larger than the lower leaflets. Some *Potentilla* species (cinquefoil) are also similar, and very common. The leaflets in *Potentilla* are generally fewer than 15, and are more than 3-5 toothed.

IDENTIFICATION TIPS: Make note of plant growth habit, flower color, and petal number and length.

REMARKS: The roots of some *Geum* species were used by Okanagan-Colville Indians to make a tea for colds, flu, fever, post-childbirth, and as a love potion drunk by women to win back a man's affections.

John Gamon/WA Natural Heritage Program



Geum rossi var. *depressum*

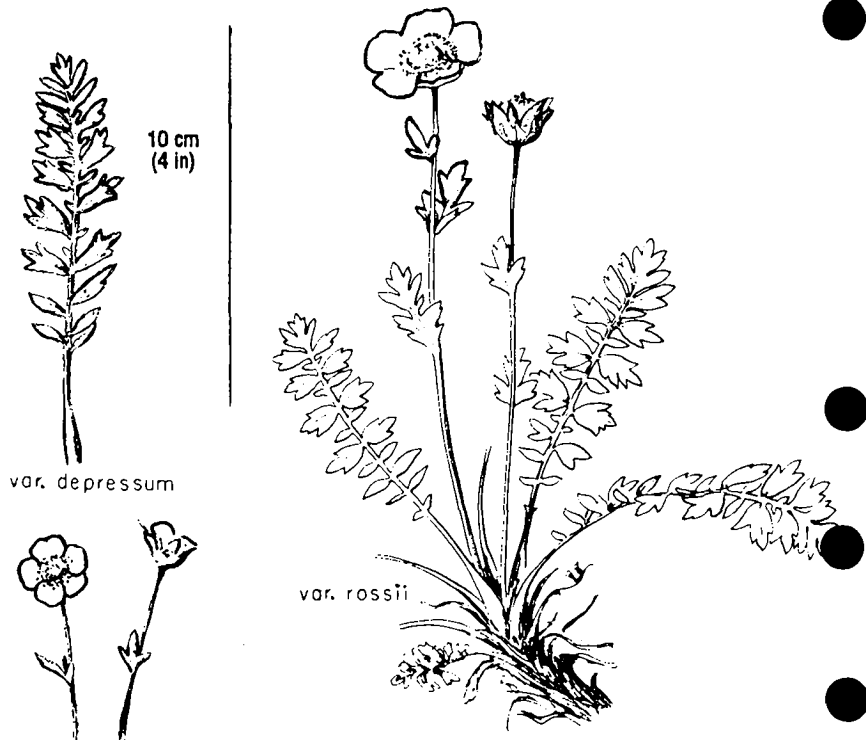
Rosaceae

Ros avens

DESCRIPTION: A perennial with thick, scaly rootstocks, forming dense clumps up to 3 dm (12") broad. The numerous basal leaves persist after withering. Leaves are covered with long silky-grayish hairs.

LEAVES: Mostly basal, blades oblong in outline, 4-10 cm long. Blades pinnately dissected into 15-25 leaflets, the lowest ones entire, the rest toothed 3-5 times. The terminal leaflets are not larger than the other leaflets. There are several, small, toothed cauline (stem) leaves.

FLOWERS: (July through August) Yellow, with 5 petals, 6-10 mm long. Usually 1, sometimes 2-4 flowers per stem. The calyx (sepals) is often hairy, usually green, but occasionally purplish.



Githopsis specularioides (GISP2)
Common blue-cup
Harebell family (*Campanulaceae*)

RANGE AND HABITAT: Chelan Ranger District. Chelan, Whitman, Klickitat cos., both sides of the Cascade Mtns., scattered in WA; s. to s. CA. Dry, open places in valleys and foothills.

SIMILAR SPECIES: None.

IDENTIFICATION TIPS: If in bloom, identification is unmistakable. Make note of leaf and calyx (sepal) lengths, note if calyx is longer than corolla (petals); note flower color.

REMARKS: WA State Threatened. "specularioides" means showy or spectacular, probably referring to the small but lovely flower. Unfortunately, these plants are not as numerous as "common bluecup" suggests.

Wenatchee National Forest



Githopsis specuarioides

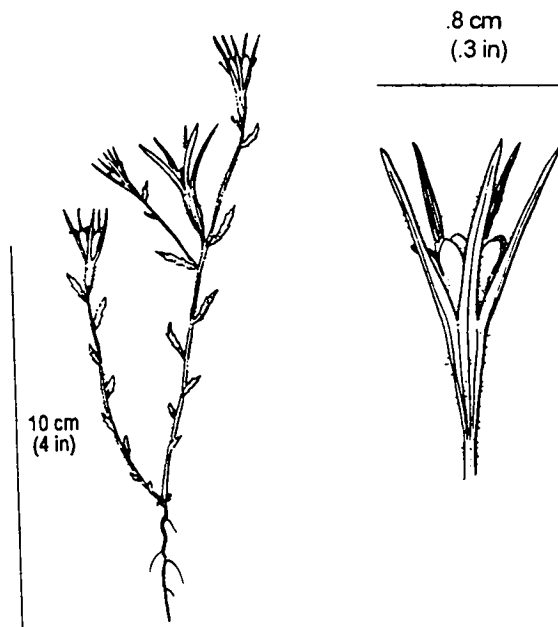
Campanulaceae

Common blue-cup

DESCRIPTION: A spreading annual with branched and leafy stems, up to 3 dm (12") tall. Solitary flowers terminate the branches.

LEAVES: Oblong or narrower, up to 15 mm long, and 3 mm wide. Margins are slightly serrated. Leaves are all cauline (stem).

FLOWERS: (May to June) Blue with a white throat, **petals are nestled in a crown of long calyx lobes**. Flower is tube to bell-shaped, with 5 fused petals. **The 5-15 (20) mm long calyx is an identifying characteristic; calyx lobes are narrow, usually longer than the petals.**



***Hackelia hispida* var. *disjuncta* (HAHID)**

Rough stickseed, wild forget-me-not

Borage family (*Boraginaceae*)

RANGE AND HABITAT: Entiat Ranger District. Local endemic, in Grant and Douglas cos., vicinity of Grand Coulee and Moses Coulee, n. to Rock Island dam; 1 report in Kittitas Co., WA. Rocky, often unstable talus slopes, usually with little other vegetation, grassland to open forest, 600-1,500'.

SIMILAR SPECIES: *H. cinerea* is most similar in appearance and habitat, but it has larger petals (7-12 mm wide), hairy fornicies (tiny appendages in throat), and the flower is white instead of yellowish-white. *H. cinerea* should also be reported.

IDENTIFICATION TIPS: Make note of leaf length, hairs, flower color, petal width, presence or absence of hairs on throat appendages.

REMARKS: "Hackelia" is named after the Czech botanist Joseph Hackel (1783-1869). "hispida" means bristley, probably referring to the stiff hairs on the herbage.

Pam Camp/BLM



Hackelia hispida var. *disjuncta*

Boraginaceae

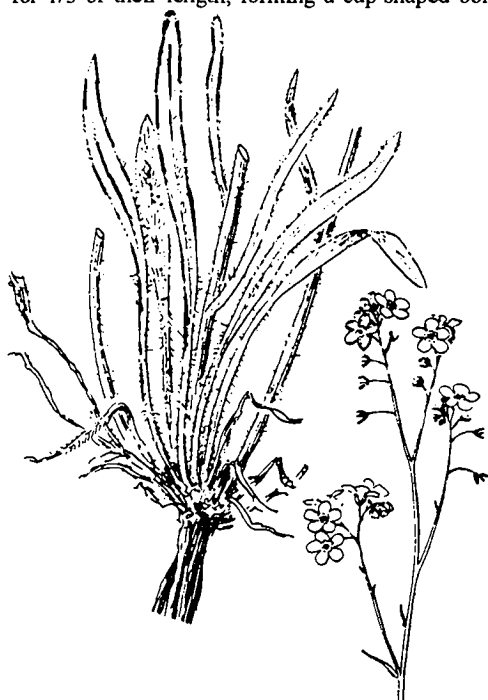
Rough stickseed, wild forget-me-not

DESCRIPTION: Slender, robust, gray-green perennial, stems several, 3.5-6 dm (14-24") tall, with straight hairs all on the flower heads and leaves, the stem sometimes hairless. **Hairs all point the same direction.**

LEAVES: Petiolate (stemmed) basal leaves are usually lance-shaped, 4-14 cm long, 4-12 mm wide. Cauline (stem) leaves are smaller, lance-shaped, and without petioles.

FLOWERS: (May through June) Yellowish-white or greenish-tinged. Petals are 4-5 mm wide. Fornices are hairless.

FRUIT: Borage family members typically have a fruit in 4 parts, called nutlets. *H. hispida* var. *disjuncta* has 4 nutlets, each armed with prickly, barbed hairs along the top ridge of each nutlet. Prickles unite with each other for 1/3 of their length, forming a cup-shaped border.



H. cinerea



nutlets



.6 cm
(.25 in)



H. hispida

***Hackelia venusta* (HAVE)**
Showy stickseed
Borage family (*Boraginaceae*)

RANGE AND HABITAT: Lake Wenatchee and Leavenworth Ranger Districts. Local endemic, in Chelan co., WA. Rocky, loose, sandy slopes with ponderosa pine (*Pinus ponderosa*), at lower elevations in the Tumwater Canyon, and in talus in the Enchantments, 1,000' and 7,000' (see **REMARKS**).

SIMILAR SPECIES: *H. venusta* petals are 13-20 mm wide; other white-flowered *Hackelia* species have 4-12 mm wide petals. *H. hispida* var. *disjuncta* (see description in this book) and *H. cinerea* (petals are 7-12 mm wide, with tiny, hairy appendages in the throat) are also white-flowered; both of these similar species should be reported.

IDENTIFICATION TIPS: Make note of leaf length, hairs, flower color, petal width, presence or absence of hairs on throat appendages.

REMARKS: WA State Endangered; Federal Candidate, Category 1. "Hackelia" is for the Czech botanist Joseph Hackel (1783-1869). This species has a distinct distribution, being found at just over 1,000' elevation, and again around 7,000', with apparently no occurrences in between. The upper population may be a different taxon.

Wenatchee National Forest



Hackelia venusta

Boraginaceae

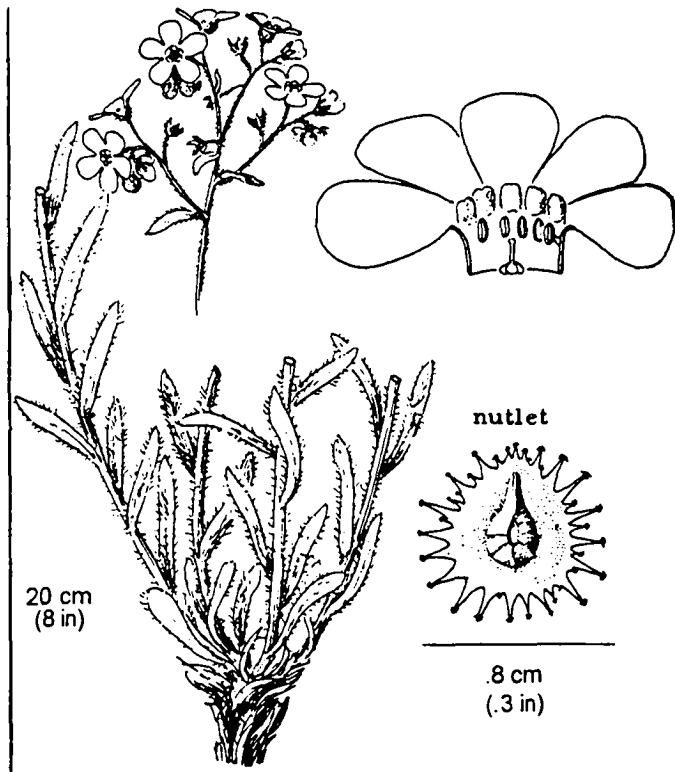
Showy stickseed

DESCRIPTION: A multi-stemmed perennial with green, **bristly-haired** **herbage** and showy flowers, 2-4 dm (.5-1.5') tall.

LEAVES: Chiefly cauline (stem), **2-5 cm long, 3-11 mm wide**, numerous. Lower leaves oblong lance-shaped, with short petioles (stalks); upper leaves more linear-oblong and without petioles. All leaves have stout hairs.

FLOWERS: (May through June) **White to blue-washed, showy.** Petals are 13-20 mm wide. Fornices (appendages in throat) are covered with short, round, blunt projections (papillate).

FRUIT: Borage family members typically have a fruit in 4 parts, called nutlets. *H. venusta* has 4 nutlets, each armed with prickly, barbed hairs along the top ridge of each nutlet. Prickles unite with each other for 1/3 to 1/2 their length into an evident border.



Iliamna longisepala (ILLO)
Longsepal globemallow
Mallow family (*Malvaceae*)

RANGE AND HABITAT: Entiat, Lake Wenatchee, Leavenworth Ranger Districts. Regional endemic, Douglas, Chelan, Kittitas cos., WA. Dry, sagebrush (*Artemisia*) steppes and open hillsides, gravelly streamsides, open ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) forests, 650-4,000'.

SIMILAR SPECIES: *I. rivularis* is quite similar in appearance and habitat, although the two species are apparently not found together. The sepals on *I. rivularis* are less than 1 cm long, rounder, with blunter tips and convex margins (*I. longisepala* has >1 cm long sepals that taper to a sharp point).

IDENTIFICATION TIPS: Make note of flower color, petal and pedicel (flower stalk) length, and sepal shape and length. Measure and observe several sepals, as the shape and length don't always fall within average sizes.

REMARKS: "longisepala" refers to the sepals, which are longer than those of a similar species, *I. rivularis*. Most common on the Entiat Ranger District.

Wenatchee National Forest



Iliamna longisepala

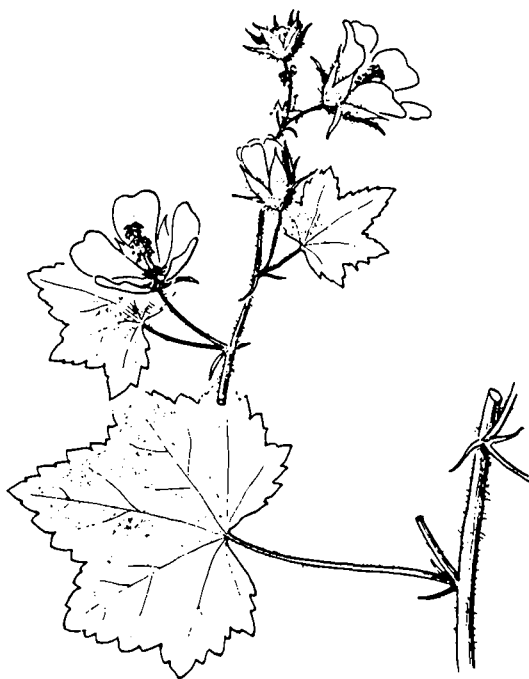
Malvaceae

Longsepal globemallow

DESCRIPTION: Showy, 1-2 m (3-6.5') tall, with maple-like leaves. Plant can reach large shrub size.

LEAVES: 4-10 cm (1.5-4") long, lobed 5-7 times. Lobes are triangular, leaf edges are coarsely serrated.

FLOWERS: (June to September) Rose-purple color, with a delicate fragrance, petals about 2 cm long. 1-several flowers in leaf axils, on 1-5 cm long pedicels. Sepals are about 1.5 cm long, with sharp tips and somewhat concave margins.



10 cm
(4 in)

Limosella acaulis (UAC)

Southern mudwort

Figwort family (*Scrophulariaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Whatcom, Chelan, Benton, and Wahkiakum cos., recent sightings along the Columbia River and shores of lowland lakes, disjunct in WA; coastal CA to s. NM, s. to Baja CA and the Mexican Plateau. Shallow water and wet mud at low elevations.

SIMILAR SPECIES: *L. aquatica* has slightly smaller leaf blades (.5-1.8 cm long, .2-.7 cm wide). The style is sharply decurved at the base (*L. acaulis* has an arced or straight style), and the petals are acute (pointed at the tip).

IDENTIFICATION TIPS: Do not collect any part of this plant. Note whether style is arced or straight (as opposed to decurved), petal tip shape, leaf size.

REMARKS: "Limosella" refers to the plant's habitat, as "limus" is Latin for mire, and "sella" means seat. "acaulis" means stemless, referring to the lack of upright stems. **Occurrences are so rare that in the early 1980's the plant was thought to be extirpated.**



Ownbey Herbarium/WSU

Limosella acaulis

Scrophulariaceae

Southern mudwort

DESCRIPTION: A diminutive, fibrous-rooted perennial, up to 8 cm (3") tall, although generally decumbent (curved base). **This plant lacks upright stems, but the long leaf and flower stalks arising from the ground give it the appearance of being stemmed.**

LEAVES: Blades are linear lance-shaped with palmate veining, 0.6-1.2 cm long. Petioles (stalks) are several times as long as the blades.

FLOWERS: (May to November) Color is white to pinkish to violet-tinged. The 5 petals are inconspicuous and rounded. Styles are either straight or curved into an arc. Stamens number 4 and are slightly unequal.



(*L. aquatica*: *L. acaulis* unavailable)

Loiseleuria procumbens (LOPR)

Alpine azalea

Heath family (*Ericaceae*)

RANGE AND HABITAT: Chelan Ranger District. Barely in our area, King Co. and Trapper Peak in Skagit Co., disjunct in WA; AK to Greenland, n.e. US, s. to BC. Alpine slopes, moist meadows near lakes in the subalpine zone.

SIMILAR SPECIES: *Phyllodoce* (mountain heather) is similar and grows in the same habitat, but has pink, bell-shaped flowers with curled-back corolla (petal) lobes, twice as many stamens as corolla lobes, and alternate, linear leaves.

IDENTIFICATION TIPS: Make note of growth habit, number of stamens versus corolla lobes, direction of corolla lobe curl (if any).

REMARKS: Named for J.L.A. Loiseleur-Deslongchamps, an early French botanist. "procumbens" means trailing but not rooting, referring to the plant's sometimes trailing habit. The most serious threat to the alpine azalea is from collectors, who take cuttings for propagation.

University of Washington Herbarium



Loiseleuria procumbens

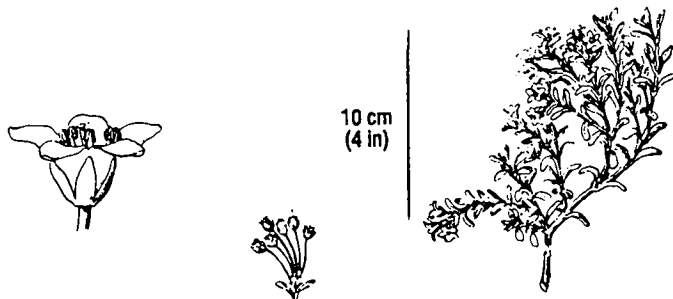
Ericaceae

Alpine azalea

DESCRIPTION: A dwarf, alpine, evergreen shrub, with a prostrate habit, to 10 cm (4") tall. Diffusely branched, sometimes trailing.

LEAVES: Narrowly rounded leaves, bright green, opposite; 4-8 mm long with turned-under margins.

FLOWERS: (July through August) Light to deep pink, clustered in axils of stem leaves. The 5 petals are fused at the base, and are 3-4 mm long. Stamens and sepals also number 5. There are fine hairs inside of the flower.



Mimulus suksdorfii (MISU)
Sukdorf's monkey-flower
Figwort family (*Scrophulariaceae*)

RANGE AND HABITAT: Suspected in the Wenatchee National Forest. Klickitat, Yakima, Chelan, Grant cos., peripheral in WA; s. to CA, e. to WY and CO. Dry, rocky, shallow soil in sagebrush (*Artemisia*) or ponderosa pine (*Pinus ponderosa*), and in association with grasses (*Poa*, *Sitanion*, *Agropyron*, *Festuca*), *Phlox*, onion (*Allium*), and *Erigeron*. Also in wetter areas. 3,500-4,000'.

SIMILAR SPECIES: There are several other yellow-flowered *Mimulus* species, but only *M. breviflorus* also has a calyx (sepals) which covers most of the corolla (petals) tube. The calyx tips on *M. breviflorus* are generally sharply pointed; *M. suksdorfii* has more rounded calyx tips.

IDENTIFICATION TIPS: Note leaf measurements, stem branching, length of corolla in relation to calyx, and shape of calyx tips.

REMARKS: "Mimulus" is of the Latin "mimus", meaning mimic. "suksdorfii" is named for Wilhelm Sukdorf, a 19-20th century botanist who worked in the Columbia Gorge region.



Mimulus suksdorfii

Scrophulariaceae

Suksdorf's monkey-flower

DESCRIPTION: A small, diffusely-branched annual herb, 3-10 cm (1-4") tall.

LEAVES: Linear to narrowly oblong, opposite, and up to 2 cm long. Leaves mainly sessile (stalkless), although lowest leaves may have short stalks.

FLOWERS: (June through August) Yellow and faintly spotted, with 5 petals fused into a tube, and hairs inside the throat. Petals are slightly unequal with notched tips, 4-8 mm long. The calyx is hairy or slightly sticky, and 3-5 mm long with rounded tips; it covers nearly the entire corolla tube, leaving only the notched lobes free.



.8 cm
(.3 in)



***Montia diffusa* (MOD13)**
Branching montia
Purslane family (*Portulacaceae*)

RANGE AND HABITAT: Cle Elum Ranger District. In Kittitas Co., near Lk. Cle Elum; Olympic Peninsula, Puget Trough, Columbia River Gorge, scattered in WA. Moist woods, at lower elevations.

SIMILAR SPECIES: *M. parvifolia* has unbranched stems and alternate leaves; *M. siberica* has unbranched stems and only one pair of opposite stem leaves. *Claytonia lanceolata* has a similar flower, but only one pair of opposite stems leaves.

IDENTIFICATION TIPS: Make note of flower and leaf shapes, and branching.

REMARKS: "Montia" was named for the Italian botanist Giuseppi Monti, 1682-1760. "diffusa" means spreading or diffuse, probably referring to the branching stems. Some species of *Montia* are commonly called miner's lettuce, and are edible.



Russ Jolley

Montia diffusa

Portulacaceae

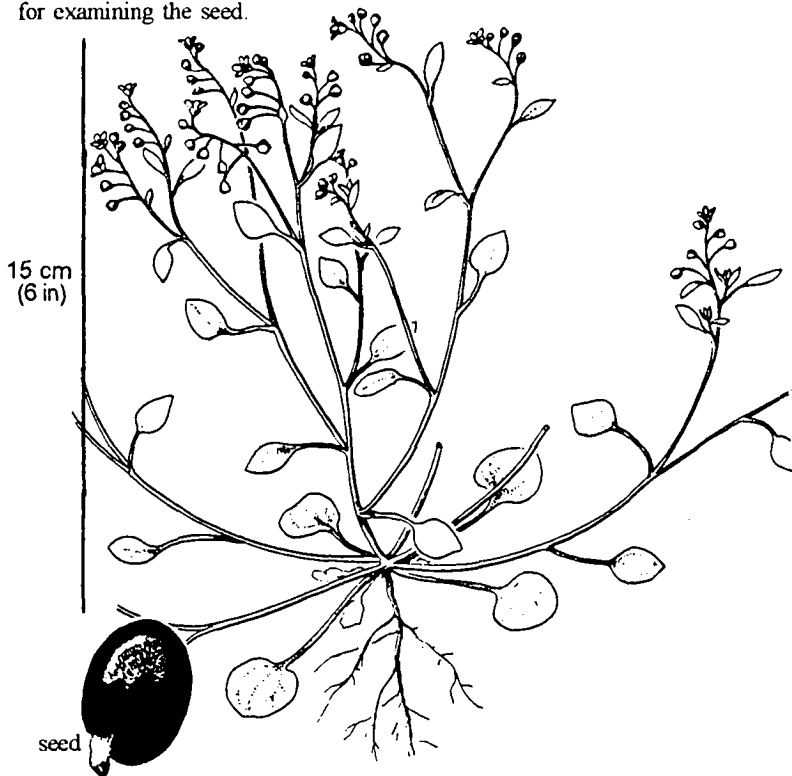
Branching montia

DESCRIPTION: A low, spreading, diffusely-branched annual, 2 dm (8") tall, and up to 4 dm (16") broad, with **branching stems**.

LEAVES: Spatula-shaped and slightly succulent. **Basal leaves few**, usually broad and abruptly narrowed to a long stalk (petiole), rarely >3 mm broad. **Stem leaves are somewhat reduced upward, and alternate.**

FLOWERS: (April through July) White or pale pink, with 5 3-5 mm long petals. Flowers are clustered at the branch ends. Sepals 2-3 mm long and unequal; stamens 5.

FRUIT: 0-3 black, shining seeds with several rows of low, oval protuberances, and a short appendage nearly 0.5 mm long. Magnification is necessary for examining the seed.



***Nicotiana attenuata* (NIAT)**
Wild tobacco, coyote tobacco
Potato family (*Solanaceae*)

RANGE AND HABITAT: Leavenworth Ranger District. Columbia Basin, scattered in WA; s. B.C. and n. ID to Baja CA, Sonora and TX. Dry, sandy places. Has been reported with sagebrush (*Artemisia*). Was gathered by Okanagan-Colville Indians along creeks and in moist places.

SIMILAR SPECIES: *N. acuminata* is an uncommon, introduced species. The corolla (petal) tube is longer, to 6 cm; calyx (sepal) lobes are 5-7 mm, and equal to or longer than the calyx tube.

IDENTIFICATION TIPS: Note corolla tube length and habitat.

REMARKS: "Nicotiana" was named for Jean Nicot, who introduced tobacco to France in the 16th century. "attenuata" means drawn to a point, possibly referring to the reduced, linear upper leaves. Okanagan-Colville Indians gathered the non-flowering plant for women to smoke, and the flowering plant for men to smoke. The *Solanaceae* family encompasses not only potatoes, tomatoes, peppers, and eggplant, but poisonous and/or narcotic notables such as nightshade, belladonna, jimsonweed, henbane, mandrake, and commercial tobacco (*Nicotiana tobacum*).



Reid Schuller/WA Native Plant Society

Nicotiana attenuata

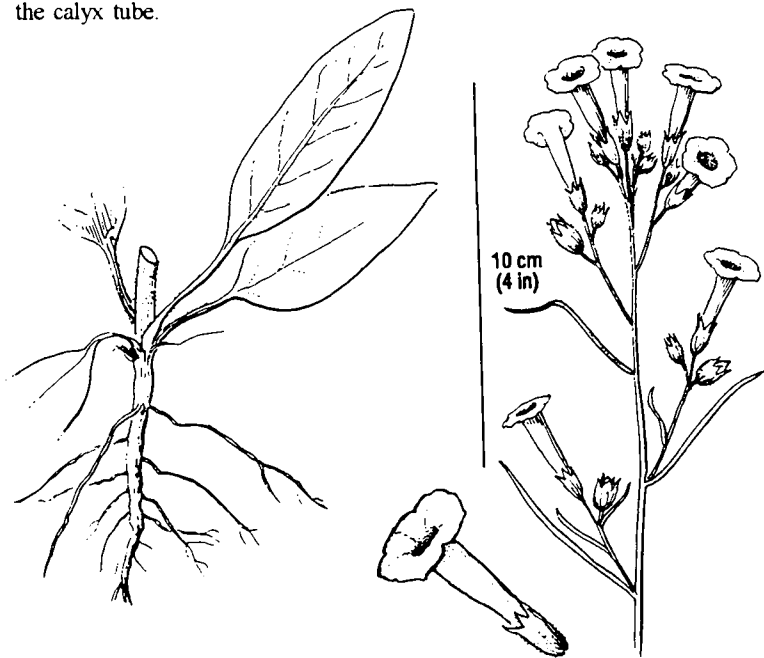
Solanaceae

Wild tobacco, coyote tobacco

DESCRIPTION: A strong-smelling, sticky-hairy (glandular) annual, 3-10 dm (12-39") tall.

LEAVES: The lowest (and largest) leaves have petioles, and are oval lance-shaped, 2.5-12 cm long, and 1-5 cm wide. The upper, smaller leaves are quite narrow, with entire leaf margins.

FLOWERS: (June through September) Dirty white. The corolla is fused into a narrow tube, 2.5-3.5 cm long; the expanded part of the corolla is 8-14 mm wide. The longest calyx lobes are 2-4 mm long, and distinctly shorter than the calyx tube.



Orobanche pinorum (ORPI)

Pine broomrape

Broomrape family (*Orobanchaceae*)

RANGE AND HABITAT: Chelan, Cle Elum, Leavenworth, Lake Wenatchee, and Naches Ranger Districts. WA and n. ID, s. to n.w. CA. In somewhat open coniferous forests, from foothills to mountains, on rocky outcrops with very thin soils; originally thought to be parasitic on conifers, more recently found to be parasitic on oceanspray (*Holodiscus discolor*).

SIMILAR SPECIES: Other species of *Orobanche* occur in the Wenatchee National Forest. *O. pinorum* is most easily distinguished by its mostly sessile (stalkless) flowers, and the pointed corolla (petal) lobes.

IDENTIFICATION TIPS: Note calyx and corolla lengths, plant height, shape of corolla lobes, and whether or not flowers are sessile. Also note the species of plant the *Orobanche* is found under, and the surrounding vegetation.

REMARKS: "Broomrape" refers to the plant's parasitic habit. "Orobanche" is Greek, "orobos" meaning vetch, and "anchein" meaning to choke. Some species are apparently parasitic on members of the pea family, to which both vetch and broom belong.

Terry Lillybridge/Wenatchee National Forest



Orobanche pinorum

Orobanchaceae

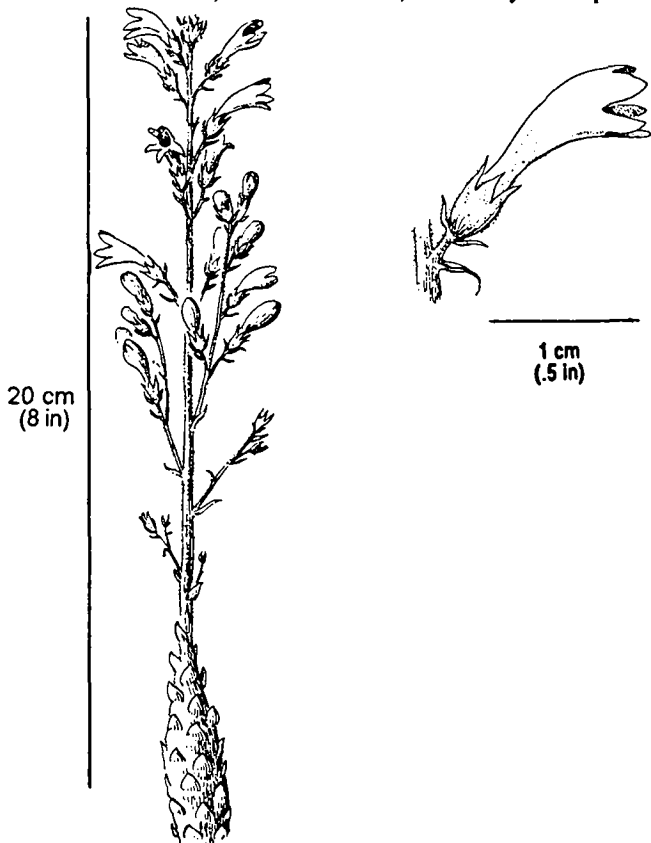
Pine broomrape

DESCRIPTION: A non-green, perennial, parasitic herb, commonly branched, 1-3 dm (4-12") tall. *Orobanche* is sticky and covered with fine hairs, straw-colored when first appearing in mid-summer, later turning to a dark rust-brown.

LEAVES: There are no true leaves; bracts on the stem resemble small leaves.

STEMS: The main stems are 1 to several, from a thickened, somewhat tuberous base. The stems branch loosely in the upper half.

FLOWERS: (July through August) Yellowish marked with purplish-brown. Corolla is 13-20 mm long; calyx is 5-8 mm long. **Flowers have a characteristic downward bend, are either sessile, or on very short pedicels (stalks).**



Oryzopsis hendersonii (ORHE)
Henderson's ricegrass
Grass family (*Poaceae*; *Gramineae*)

RANGE AND HABITAT: Cle Elum Ranger District. Regional endemic; Yakima and Kittitas cos., WA; Jefferson Co., OR. Dry, rocky, shallow soil, often with stiff sage (*Artemisia rigida*) or ponderosa pine (*Pinus ponderosa*).

SIMILAR SPECIES: Can be confused with other grasses, although most similar species are found in moister habitats. Use of a technical key will be necessary for positive identification.

IDENTIFICATION TIPS: Look for arrangement of one floret per spikelet, seeds resembling grains of rice, and leaves with rolled edges.

REMARKS: "Oruza" means rice, "opsis" means like, in reference to the short, fat rice-like seeds. *Oryzopsis* is considered to be palatable and nutritious, although rarely abundant.

Kali Robson



Oryzopsis hendersonii

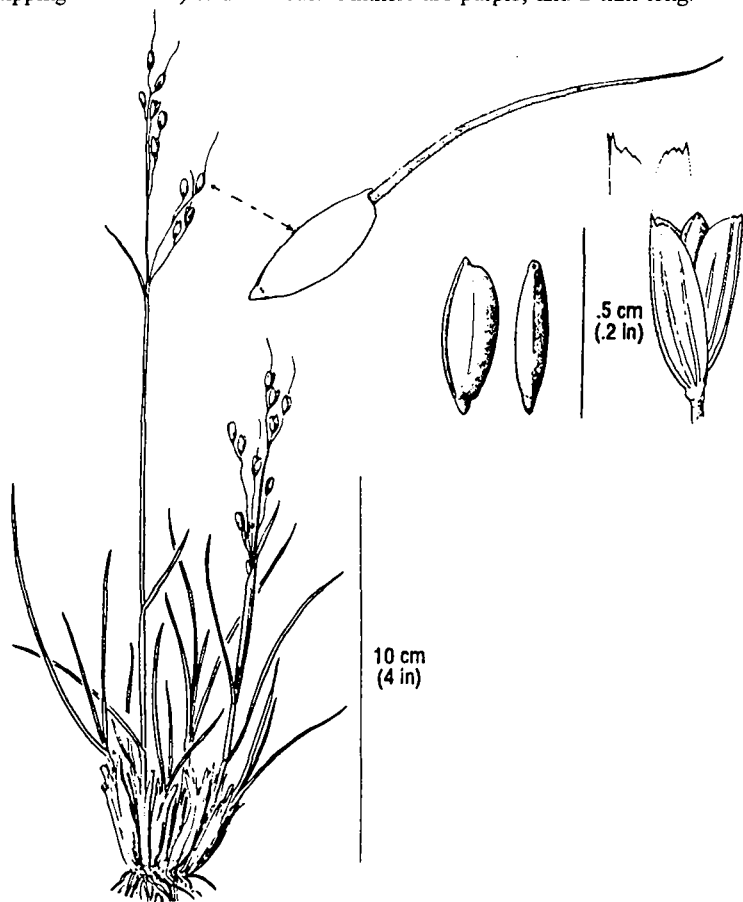
Poaceae; Gramineae

Henderson's ricegrass

DESCRIPTION: A strongly tufted perennial, 1-3 dm (4-12") tall, with smooth, semi-solid stems.

LEAVES: Blades are erect with rolled-back edges, barely 1 mm broad.

FLOWERS: (May through June) Panicle (seed head) is 4-12 cm long, often partially sheathed, and double-branched. **Spikelets are 1-flowered.** Glumes (2 bracts at base of spikelet) are blunt shaped, with 4-5 nerves running through each glume. Lemma is brownish, 3.8-5 mm long, palea nearly the same length (both are bracts subtending individual grass flowers). Awn (bristle tipping the lemma) is deciduous. Anthers are purple, and 2 mm long.



Pedicularis rainierensis (PERA5)
Mount Rainier lousewort
Figwort family (*Scrophulariaceae*)

RANGE AND HABITAT: Naches Ranger District. Local endemic, Mt. Rainier and immediate vicinity, Pierce Co., and the s. end of the Mt. Baker-Snoqualmie National Forest, WA. Moist, alpine and subalpine meadows, and coniferous forests; 4,000-7,000' elevation.

SIMILAR SPECIES: Other louseworts may look similar, but they lack the basal leaves and yellow flowers of *P. rainierensis*. *P. capitata* also has yellowish flowers, but they are 2.5-3.5 cm (>1") long, while *P. rainierensis* flowers are 1.5 cm (<1") long.

IDENTIFICATION TIPS: Note flower length, the shape of the galea tip, and basal leaf length.

REMARKS: "Pedicularis" is a Latin name pertaining to lice. The genus once had the distinction of being held responsible for lice infestations following ingestion, hence the common name "lousewort." "wort" is old English for plant.

Robin Leshner



Pedicularis rainierensis

Scrophulariaceae

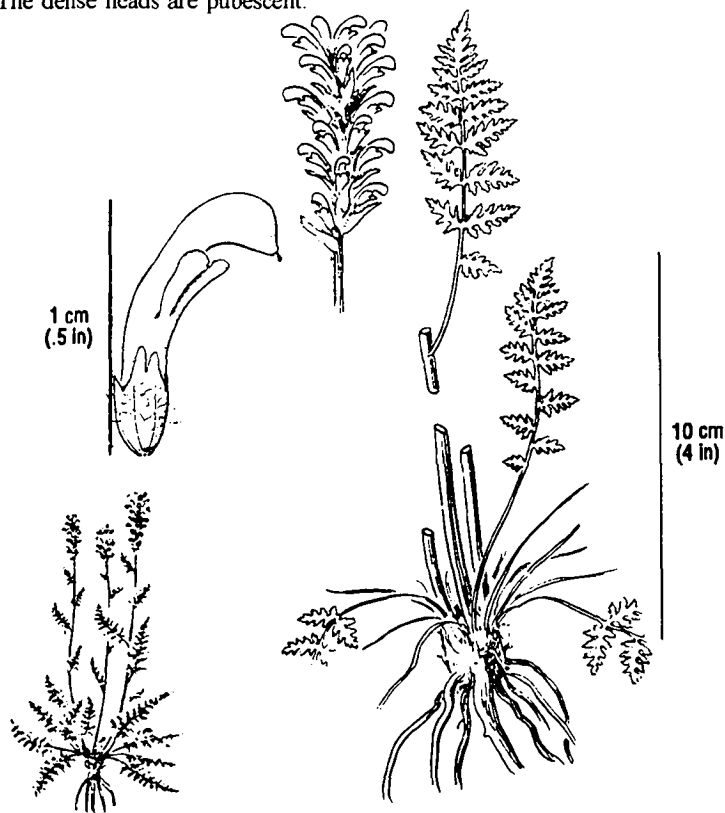
Mount Rainier lousewort

DESCRIPTION: A fibrous-rooted perennial, 1.5-4 dm (6-16") tall, with fern-like leaves.

LEAVES: Basal leaves are 5-15 cm long; cauline leaves are divided into deeply and doubly toothed leaflets, and become progressively shorter up the stem. Leaves can appear purplish-green.

STEMS: Several, clustered, unbranched stems are purplish in color, and hairless.

FLOWERS: (July through August) Yellow to yellowish-white, 1.5 cm long. Galea (longest undivided upper "lip" on the corolla), is the same length as the corolla tube, and **not extended into a beak-like projection at the tip.** The dense heads are pubescent.



Pellaea brachyptera (PEBR2)

Sierra cliff-brake

Fern family (*Polypodiaceae*)

RANGE AND HABITAT: Chelan Ranger District. N. shore of Lk. Chelan, Chelan Co., WA; s.w. OR and n. CA. Dry, rocky slopes with wheatgrass (*Agropyron spicatum*) and another small fern (*Aspidotis densa*); talus slopes, crevices, outcrops; sometimes in scattered ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) forests.

SIMILAR SPECIES: *Aspidotis densa* is generally smaller (fronds up to 30 cm), does not have longitudinal furrows on either stem or rachis, and has a more densely tufted, matted rhizome. *P. breweri* is usually shorter (4-21 cm tall), and has persistent petiole (leaf stalk) bases which outnumber the new growth. *P. breweri* should also be reported.

IDENTIFICATION TIPS: Note pinnae (leaflet) and frond measurements, and whether or not petioles are persistent.

REMARKS: "Pellaea" is from the Greek "pellos", meaning dark, in reference to the dark petioles.

Wenatchee National Forest



Pellaea brachyptera

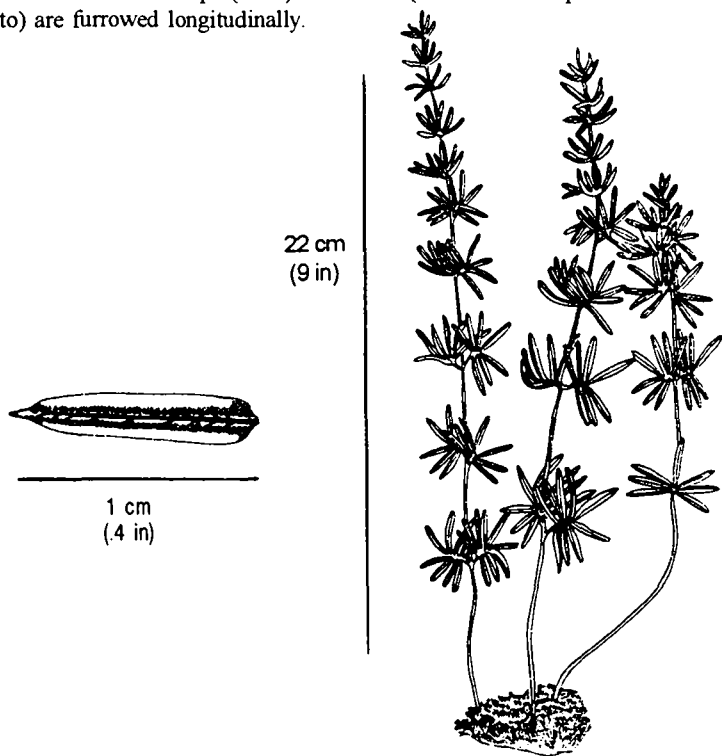
Polypodiaceae

Sierra cliff-brake

DESCRIPTION: Dry-site, low-growing, tufted perennial fern, up to 4 dm (16") tall, with clustered petioles. The dense, red-brown scales on the rhizomes have the appearance of rusty-brown wool.

LEAVES: (June through July) Fronds have 3-6 pairs of **cleft pinnae**, densely crowded on short stalks. Each pinnae segment is 5-10 mm long, and 4 mm wide. **On fertile fronds, the pinnae margins (indusium) are inrolled nearly to the midrib of each pinnae segment, concealing the spores.** Frond stems are coarse and tough-appearing.

STEM: Both the stipe (stem) and rachis (main axis that pinnae are attached to) are furrowed longitudinally.



Pellaea breweri (PEBR3)
Brewer's cliff-brake
Fern family (*Polypodiaceae*)

RANGE AND HABITAT: Chelan, Cle Elum, Leavenworth Ranger Districts, mostly 7,500' elevation. Wenatchee Mts., Kittitas and Chelan cos., disjunct in WA; s. to CA, s.w. MT, WY, UT. Rock crevices, ledges and talus slopes, less often in open, rocky soil from the foothills to about timberline in the mountains. In WA, collected from near timberline, and on serpentine soils.

SIMILAR SPECIES: *P. brachyptera* is similar, but is usually taller (15-25 cm), does not have persistent petioles (leaf stalks), and has no paired pinnae (leaflets). *P. brachyptera* should also be reported.

IDENTIFICATION TIPS: Note pinnae and frond measurements, and whether or not there are persistent petioles.

REMARKS: "Pellaea" is from the Greek "pello", meaning dark, in reference to the dark petioles.

Wenatchee National Forest



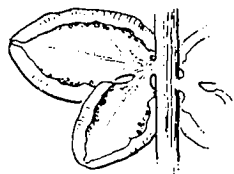
Pellaea breweri

Polypodiaceae

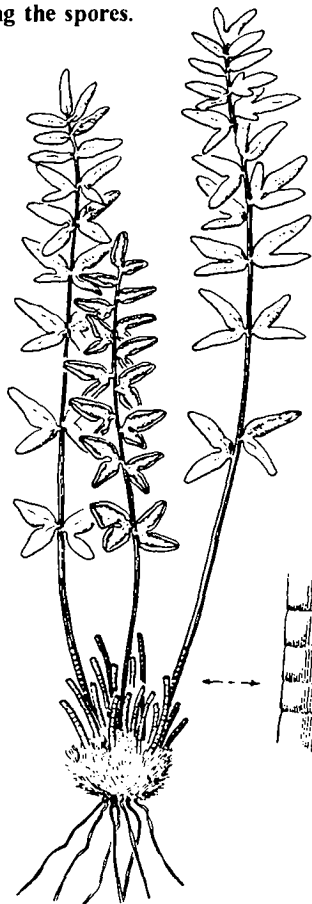
Brewer's cliff-brake

DESCRIPTION: A perennial fern, usually in talus and rock crevices, 4-21 cm (1.5-8") tall. Petioles are smooth, shining, and **chestnut color or darker**. Base of petioles are persistent, and usually are more numerous than the green fronds.

LEAVES: (June through July) Fronds have 5-11 pairs of pinnae. The **middle and lower pinnae are deeply cleft**; each half, and non-cleft pinnae, mostly 5-20 mm long, and 3-12 mm wide. The **pinnae margins (indusium) are narrowly inrolled underneath, hiding the spores**.



1 cm
(.5 in)



20 cm
(8 in)

Petrophytum cinerascens (PECI2)

Chelan rockmat

Rose family (*Rosaceae*)

RANGE AND HABITAT: Entiat Ranger District. Local endemic in Chelan Co., WA. Crevices of gneissic cliffs along the Columbia River.

SIMILAR SPECIES: Not easily confused with any other species in the same habitat.

IDENTIFICATION TIPS: Note leaf shape, length, length of flower stem, number of stamens and pistils, and persistent flower heads from previous year.

REMARKS: WA State Threatened; Federal Candidate, Category 1.

"Petrophytum" is from 2 Greek words, "petros" (rock), and "phyton" (plant), describing the plant's habit of growing in rock crevices. "cinerascens" means becoming ash-colored, probably referring to the calyx (sepals), which is grayish due to long, silky hairs.

Wenatchee National Forest



Petrophytum cinerascens

Rosaceae

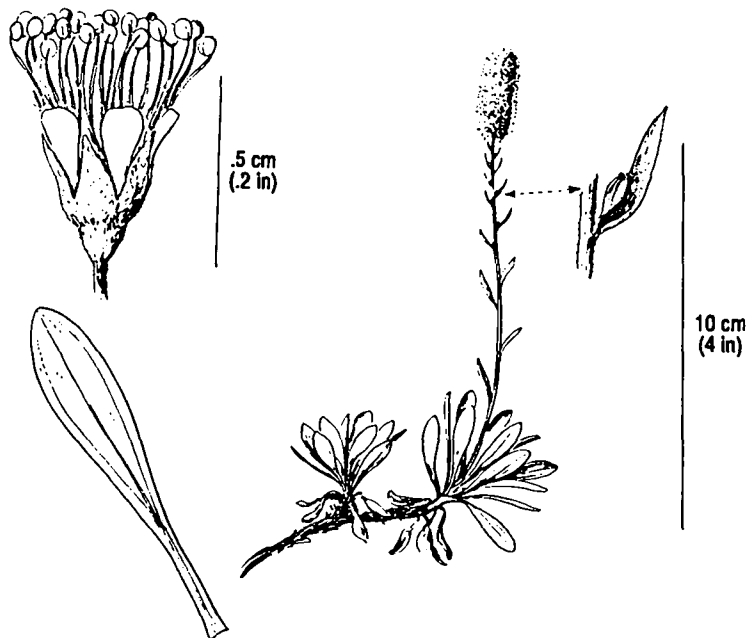
Chelan rockmat

DESCRIPTION: A prostrate, matted evergreen shrub to 10 cm (4") tall. Basal leaves are in rosette-like clusters.

LEAVES: Basal leaves oblong lance-shaped to spatulate, 10-25 mm long. Leaves are sparsely hairy. The lower flower stem has scattered, narrow, bract-like leaves. The upper flower stem has more numerous bracts attending buds.

STEMS: Flower stems are erect, unbranched, and much taller than the foliage; up to 30 cm (12") tall.

FLOWERS: (Fall blooming) White to cream, small, growing in a tight, cylindrical cluster on top of the stalk. The 5 petals are scarcely longer than the hairy sepals; **stamens and pistils protrude well above the petals.** Flowers have 20-25 stamens, and generally 5 pistils.



Platanthera (Habenaria) sparsiflora (HASP)

Canyon bog-orchid, rein-orchid

Orchid family (*Orchidaceae*)

RANGE AND HABITAT: Leavenworth Ranger District in subalpine bogs. Skamania and King cos., disjunct in WA; s.w. OR to s.w. US, e. to NV and UT. Open, wet areas, seeps and bogs at low to mid-elevations, western hemlock (*Tsuga heterophylla*) zone.

SIMILAR SPECIES: May be confused with other species of *Platanthera*, the shape of the lip (lowest petal), spur size and shape (tubular projection in back), flower color and arrangement on stalk, and leaf arrangement are used to separate the different species.

IDENTIFICATION TIPS: Note arrangement of flowers on stem (sparse or dense), whether basal leaves are present or not. Note in flower: Shape of spur, length of spur in relation to lip, lip length and tip shape, sepal length.

REMARKS: The previous generic name was *Habenaria*. "Habena" is Latin for strap or rein, referring to the linear lip of some species, hence the name "rein-orchid." "sparsiflora" describes the sparse distribution of flowers on the stem. A similar species, *P. dilatata*, was used by Okanagan-Colville Indians in witchcraft.

Lois Kemp/USFS



Platanthera sparsiflora

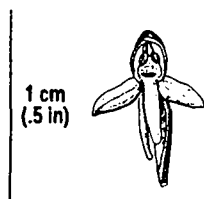
Orchidaceae

Canyon bog-orchid, rein-orchid

DESCRIPTION: A smooth, somewhat leafy perennial, to 8 dm (32") tall, with **small flowers widely spaced on the stalk**.

LEAVES: No basal leaves, although the base of the flower stem is sheathed. The cauline (stem) leaves are lance-shaped, up to 25 cm long, and 1-3 cm wide. Leaves are mostly on the lower half of the flower stem.

FLOWERS: (May through August) Greenish. **The spur is narrowly cylindric to slightly club-shaped, roughly the same length as the lip, and usually curved.** The lip is linear and hangs downwards, mostly 7-10 mm long; it is **never lobed or toothed on the tip**. Sepals (on orchids, petal-like wings) are 6-10 mm long. **The sparse arrangement of flowers on the stalk is unique to this species.**



20 cm
(8 in)



Pleuricospora fimbriolata (PLFI2)

Fringed pinesap

Heath family (*Ericaceae*)

RANGE AND HABITAT: Yakima Co, scattered throughout w. WA, s. to OR and CA. Mainly low to mid-elevations, in duff and humus of undisturbed, shaded conifer forest. Often associated with Douglas-fir (*Pseudotsuga menziesii*).

SIMILAR SPECIES: May be confused with other non-chlorophytic members of this family, but only *P. fimbriolata* has the combination of 2 or more flowers, separate petals, and few to no hairs inside the flower.

IDENTIFICATION TIPS: Note number of flowers per stalk, and if flower interior is strongly or sparsely hairy.

REMARKS: "Pleura" is Greek for side, "sporos" for seed. This refers to the position of the placenta along the walls of the compound ovary.

Jim Riley



Pleuricospora fimbriolata

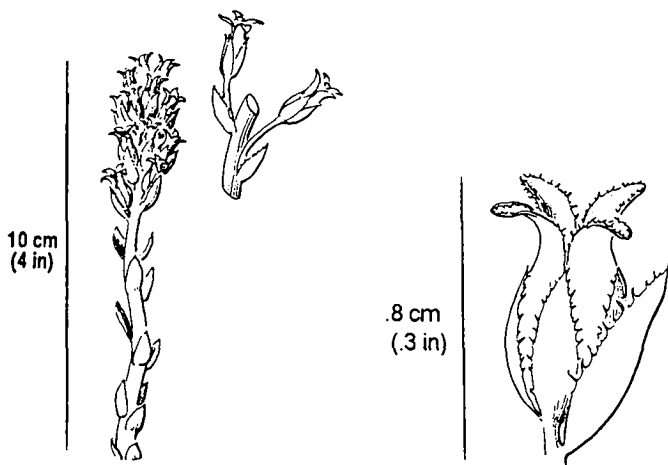
Ericaceae

Fringed pinesap

DESCRIPTION: A whitish to yellow-brown, non-chlorophytic saprophyte, 3-12 cm (1-5") tall, with stems mostly just emerging from the duff.

LEAVES: Bracts are along entire length of stem.

FLOWERS: (June through August) Flowers are clustered spike-like at the top of the stem, and number 2 or more. Sepals and petals distinct and separate; stamens number 8, petals are 1-2 cm long. Interior of flower is hairless or only slightly hairy.



Salix vestita var. *erecta* (SAVEE)

Rock willow

Willow family (*Salicaceae*)

RANGE AND HABITAT: Known from one sighting near Colchuck Lake, Leavenworth Ranger District, Chelan Co., suspected in the n. Cascades of WA; Wallowa Mts. of OR; Labrador, Ontario, and Quebec; Rocky Mt. region from s. Alberta and adjacent B.C. to w. central MT. Open, high altitude areas, often where there are springs, commonly near or above timberline.

SIMILAR SPECIES: Many willow species look similar. The combination of **serotiny** (catkins appear before leaves), **densely hairy ovaries** (many species have ovaries that are hairless or only sparsely hairy near the tip), **catkin scales that are brown to blackish** (not pale or yellowish), and **naked peduncles** (catkin stalks) separate *S. vestita* from other willows.

IDENTIFICATION TIPS: If possible, note whether catkins developed before or after leaves; also note presence of naked peduncle, leaf length and width, color of catkin scales.

REMARKS: WA State Status: Possibly extirpated. "vestita" means covered with hairs, possibly referring to the hairy ovary. "erecta" refers to the upright growth. Willows were used by Native Americans for a number of purposes. Dioscorides, in the first century A.D., recognized the healing virtue of the willow, and prescribed it for pain and inflammation. Willows (and a number of other plants) contain salicin, from which was synthesized acetylsalicylic acid, the active ingredient in aspirin.

Ownbey Herbarium/WSU



Salix vestita var. *erecta*

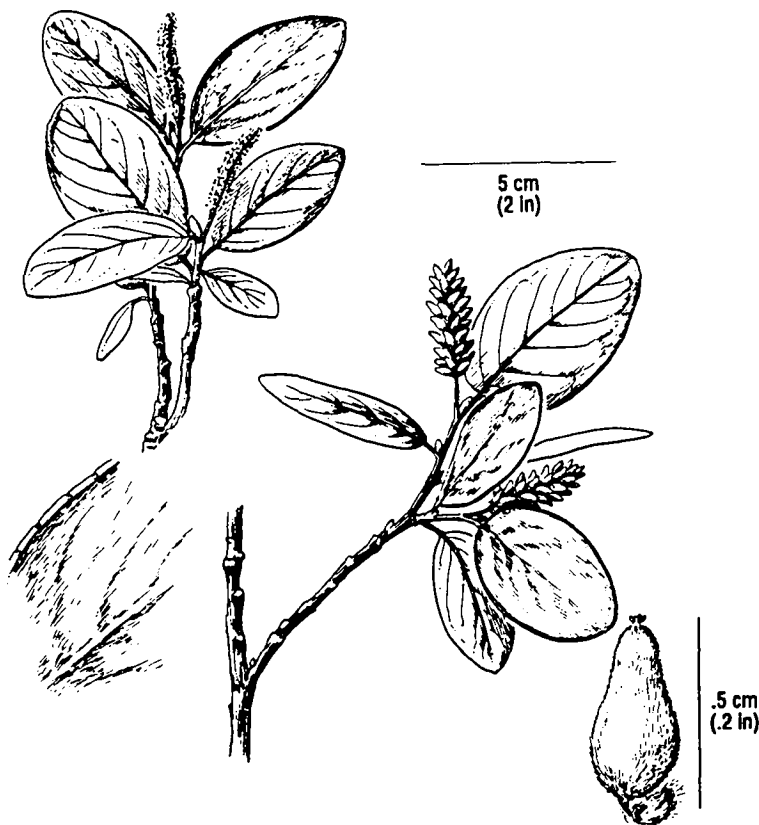
Salicaceae

Rock willow

DESCRIPTION: An upright shrub, 2-10 dm (8-40") tall, with stout, crooked, angular, brown twigs. *S. vestita* is serotinous (flowers develop after leaves).

LEAVES: Thick, oval-shaped; 2-6 cm long, 1-4 cm wide. Leaf stalks are 4-10 mm long.

FLOWERS: (July to September) Catkins have brown scales; they are often located at the terminous of the new growth. Stamens are 2 per flower (the catkin, or ament, is a spike bearing many small, non-petaled flowers). The entire ovary is densely hairy, the hairs becoming sparser with age. **Peduncles are naked**, meaning bracts and leaves are absent at the base of the stalk attaching the catkin to the stem.



***Saxifraga debilis* (SADE)**
Pygmy saxifrage
Saxifrage family (*Saxifragaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest. Olympic Peninsula, North Cascades, s. to Mount Rainier, scattered in WA; s. to AZ and CO, n. to B.C.. Damp cliffs, rock crevices, talus near snowbanks, glacial outwash, moist meadows, ephemeral streams, alpine.

SIMILAR SPECIES: *S. cernua* can be found in similar habitat. *S. cernua* develops bulbils (small bulb-like structures) in the axils of the upper stem leaves that will eventually replace the flowers lowest on the stem. The flower stem is generally taller than 10 cm (*S. debilis* is generally less than 10 cm). *S. cernua* should also be reported.

IDENTIFICATION TIPS: Note leaf shape(s), flower stem height, number of flowers per stem, and color.

REMARKS: "Saxifrage" is from 2 Latin words meaning rock-break, which either refers to the rock cleft habitat of many species, or to a supposed ability to cure gallstones. "debilis" means weak and frail, a reference which is unclear.

Robin Leshner



Saxifraga debilis

Saxifragaceae

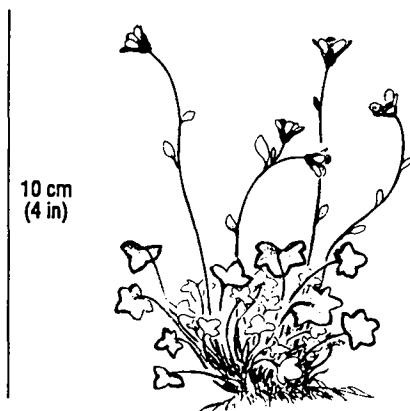
Pygmy saxifrage

DESCRIPTION: A tufted, diminutive alpine perennial with lobed leaves, forming small patches up to 8 cm (3") broad. **Bulbils** are sometimes present in the axils of the basal leaves (not in the stem leaves).

LEAVES: Mostly basal, with long, slender petioles (leaf stalks). The blade has 3-5 shallow lobes, and is 5-15 mm broad. The 1-3 cauline (stem) leaves are either lobed or oval-shaped.

STEMS: There are usually several, 1-10 cm tall, leafy flower stems.

FLOWERS: (July through August) Petals are white, often with pinkish veins, calyx (sepals) are purplish-green. **There are 1-2 flowers per stem.**



Sidalcea oregana var. *calva* (SIORC)
Oregon (Wenatchee) checker-mallow
Mallow family (*Malvaceae*)

RANGE AND HABITAT: Leavenworth Ranger District. Local endemic in the Wenatchee Mountains of Chelan and Kittitas cos., WA. Dry forest and moist meadows, stream margins generally within ponderosa pine (*Pinus ponderosa*) forest. Associated with ponderosa pine in dry sites; quaking aspen (*Populus tremuloides*) and Wenatchee larkspur (*Delphinium viridescens*) in moister sites.

SIMILAR SPECIES: *S. oregana* var. *procera* has hairs on the stem which are spreading, and simple to stellate (star-like); the calyx (sepals) on var. *procera* is usually greater than 6 mm, and the fringe of hairs on the calyx of var. *procera* is shorter. Leaves of var. *procera* are NOT noticeably thickened and fleshy.

IDENTIFICATION TIPS: Note length of petals and calyx, presence of calyx hairs, and length of fringe on the calyx edge. If possible, check for stellate hairs pressed flat against the stem. Check for fleshy, somewhat thick leaves.

REMARKS: WA State Threatened; Federal Candidate, Category 1. The seeds are often predated by insects.



Sidalcea oregana var. *calva*

Malvaceae

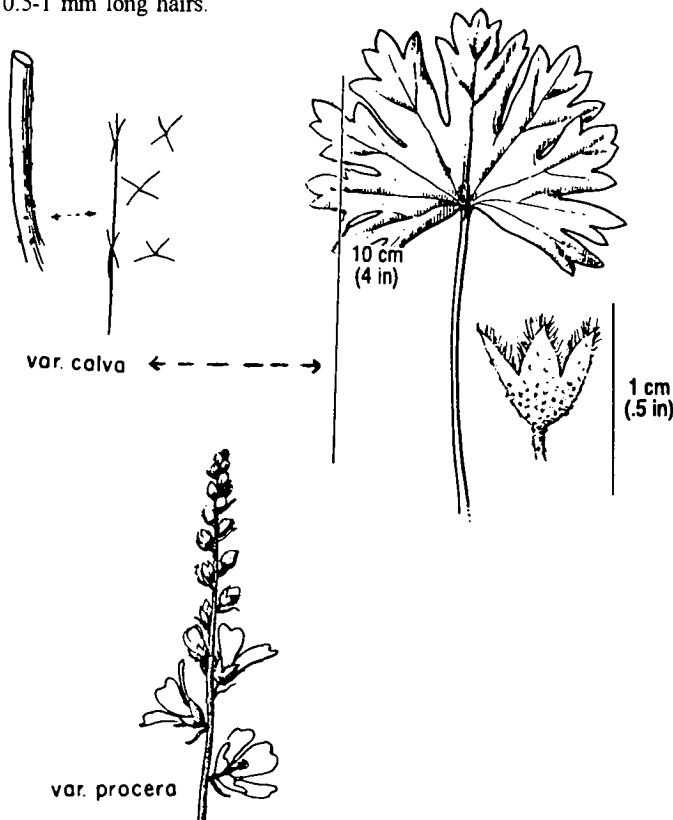
Oregon (Wenatchee) checker-mallow

DESCRIPTION: A 2-15 dm (8-59") tall perennial, rather striking when in bloom. The several stems are topped with spikes of showy flowers.

LEAVES: Palmately lobed, smooth, thick and fleshy.

STEMS: Stems often pubescent, with simple to stellate hairs. If stellate, hairs are 4-rayed, and pressed flat against the stem.

FLOWERS: (Mid-May through June) Deep to light rose-pink in color, with 5 slightly notched petals, 1-2 cm long. Pedicels (flower stalks) are 1-10 mm long. The calyx is 3.5-9 mm long, and sparsely covered with stellate hairs, some up to 2.5 mm long; the calyx lobes are strongly fringed with simple to stellate, 0.5-1 mm long hairs.



Silene seelyi (SISE)
Seely's silene
Pink family (*Caryophyllaceae*)

RANGE AND HABITAT: Leavenworth and Cle Elum Ranger Districts. Local endemic in the Wenatchee Mountains in Chelan and Kittitas cos., WA. Basalt and granitic crevices on rock outcrops and vertical cliffs, usually in the absence of other species, 2,000-7,000' elevation.

SIMILAR SPECIES: There are 2 main groups of the genus *Silene*: Introduced, weedy annuals, generally of roadsides and waste places, and native perennials. Of the native species, only *S. seelyi* and *S. menziesii* have flowers generally smaller than 12 mm long, with a pubescent calyx (sepals). *S. menziesii* has white flowers which will either have only pistils or only stamens.

IDENTIFICATION TIPS: Note leaf measurements, flower size, petal lobing, hairs on calyx, and habitat.

REMARKS: WA State Threatened; Federal Candidate, Category 2.

"*Silene*" is either from the Greek "sialon", meaning saliva, in reference to the sticky stems, or is named after Silenus, leader of the satyrs and tutor of Bacchus, the Greek and Roman god of wine and revelry. The very similar *S. menziesii* was used by the Okanagan-Colville Indians to make an eye medicine for cataracts.

Wenatchee National Forest



Silene seelyi

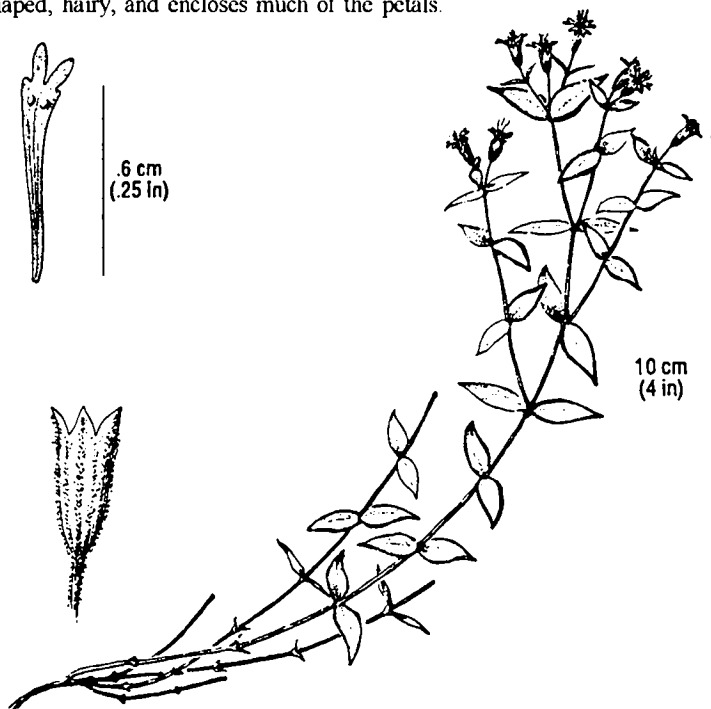
Caryophyllaceae

Seely's silene

DESCRIPTION: A branched, slender perennial, 3 dm (12") tall, with an often reclining habit; it also grows more or less upwards (obliquely). Purplish hairs are on the stem and calyx. **Stems are swollen where the leaves join.**

LEAVES: Numerous, in opposite pairs, oval lance-shaped with a pointed tip; 1-2 cm long, and 3-9 mm broad. Leaves are primarily sessile (no stalk attaching leaf to stem).

FLOWERS: (May through August) White with a definite purplish tinge, 2 to several flowers tip each stem. There are 5 bi-lobed petals usually lobed to about mid-length, often with a small lateral tooth below each lobe and usually shorter than 12 mm long. The **calyx is about 7.5 mm long**, tube-shaped, hairy, and encloses much of the petals.



Spiranthes (romanzoffiana var.) porrifolia (SPPO2)

Western ladies-tresses, pearltwist

Orchid family (*Orchidaceae*)

RANGE AND HABITAT: Cle Elum and Chelan Ranger Districts, Klickitat Co., disjunct in WA; Willamette Valley, OR, s. to CA, e. to UT. Dry to moist meadows, swampy areas, sea-level to moderate elevations in the mountains.

SIMILAR SPECIES: *S. romanzoffiana* var. *romanzoffiana* can usually be distinguished by the following inconspicuous floral features: No fine hairs on the end of the lip (bottom petal); no callosities (rough spots) on the lip; an obvious constriction of the lip near the tip; flowers white to cream.

IDENTIFICATION TIPS: Make note of leaf measurements, shape of lip both at the tip and at the base, and pubescence in the throat.

REMARKS: "Spiranthes" is from 2 Greek words meaning to coil, and flower, descriptive of the twisted appearance of the inflorescence.

Wenatchee National Forest



Spiranthes species

Spiranthes porrifolia

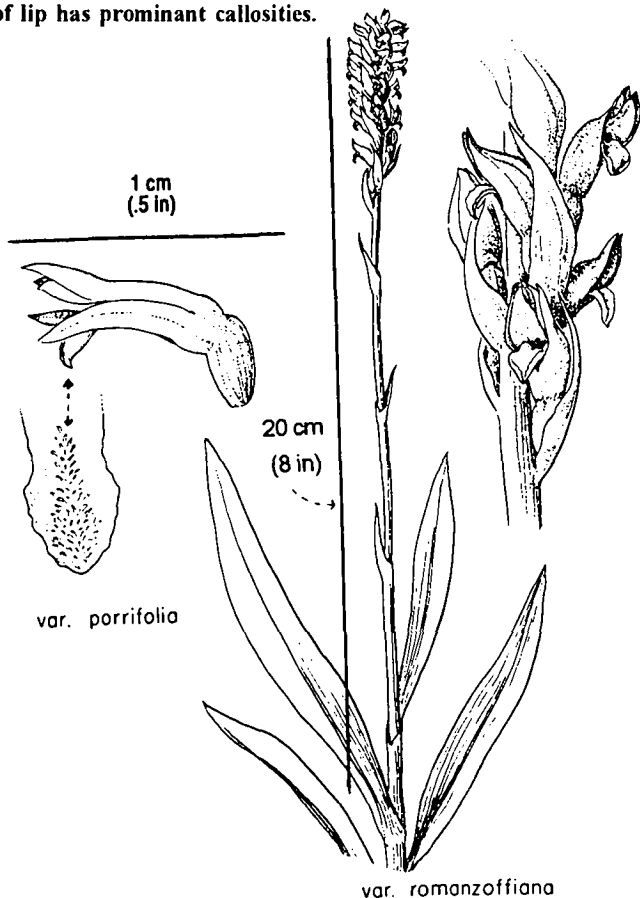
Orchidaceae

Western ladies-tresses, pearl原因

DESCRIPTION: This striking, 1-6 dm (4-24") tall perennial has numerous small flowers which are arranged on the stem in spiraling, vertical columns.

LEAVES: Several linear to narrowly oblong leaves partly sheath the stem near the base; 8-20 cm long, and 5-10 mm wide. Short, sheathing bracts are near the top of the stem.

FLOWERS: (July through August) Cream to greenish-white. The lip is finely and barely pubescent, and scarcely, if at all, constricted near the tip. Base of lip has prominent callosities.



Trifolium thompsonii (TRTH)

Thompson's clover

Pea family (*Fabaceae*; *Leguminosae*)

RANGE AND HABITAT: Entiat Ranger District. Local endemic, apparently limited to the Entiat Mountains in Chelan Co., and Badger Mountain in Douglas Co., WA. Open to lightly wooded habitat in the big sage/Sandberg's bluegrass (*Artemisia tridentata*/*Poa sandbergii*) association. In open sites, wheatgrass (*Agropyron spicatum*) is dominant. Other associated species are arrowleaf balsamroot (*Balsamorhiza sagittata*), yarrow (*Achillea millefolium*), blue-eyed mary (*Collinsia parviflora*), and daisy (*Erigeron*). Found in both well-established communities, and in recently disturbed sites.

SIMILAR SPECIES: Although there are other large-headed, showy clovers, none have the combination of large flower heads, and 3-8 long, narrow, saw-toothed leaflets per leaf.

IDENTIFICATION TIPS: Note shape and number of leaflets per leaf. Also note flower color and habitat.

REMARKS: WA State Threatened; Federal Candidate, Category 1.

"Trifolium" means 3-leaved, referring to the 3-part leaves of many clovers.

"thompsonii" is named after J.W. Thompson, a 20th century Pacific NW plant collector. Thompson's clover appears to respond favorably to wildfire.



Wenatchee National Forest

Trifolium thompsonii

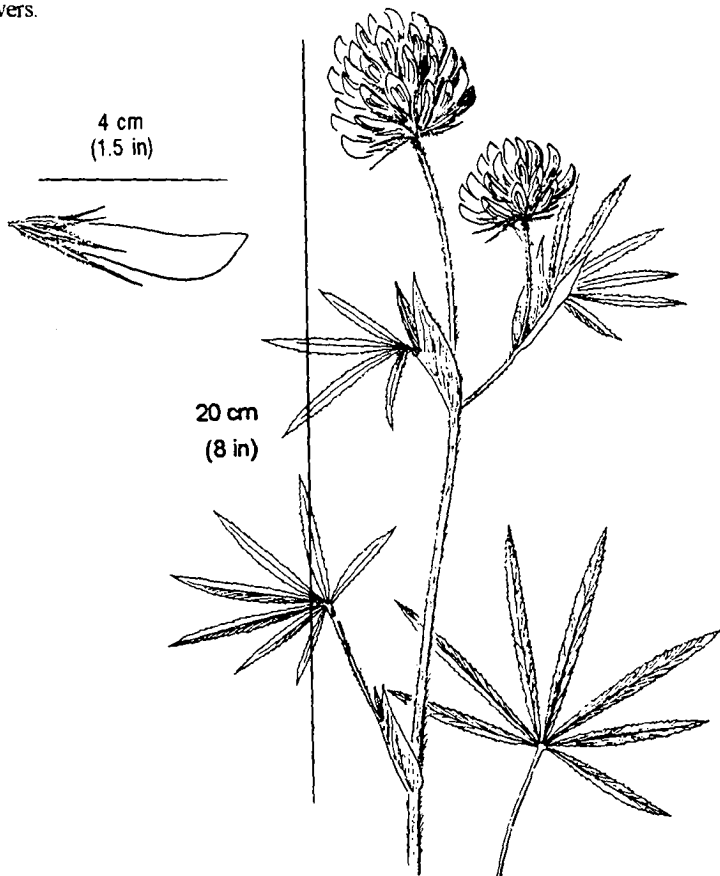
Fabaceae; Leguminosae

Thompson's clover

DESCRIPTION: A showy perennial, 20-70 dm (8-28") tall, with lupine-like leaves, and several stems topped by **large** (golf ball-sized) **heads**.

LEAVES: Palmately compound (like fingers on a hand), with **3-8 linear, saw-toothed leaflets**. The leaflets are sharply creased, and 2-6 cm long.

FLOWERS: (Late May through late June) Reddish-lavender to deep orchid-pink. The terminal heads are composed of many small, 18-22 mm long flowers.



NOXIOUS WEEDS



Noxious Weeds: General Information

Noxious weeds are non-native, aggressive invaders. They can decrease farmland and forest productivity and alter ecosystems by out-competing native vegetation, and as such are an important threat to biodiversity.

After consultation with the Washington State Noxious Weed Control Board and with Yakima, Kittitas, Chelan and Douglas county weed agents, the following weeds have been identified as the most important existing or potential invaders on the Wenatchee National Forest. There are many noxious weeds not included in this guide; for more information, please refer to the Washington State noxious weed list. **If you find any of these species, note the size of the population and the legal description of the site. Give this information to your District Noxious Weed Coordinator or District Botanist.**

Additionally, there are some steps you can take to **make yourself part of the solution instead of part of the problem** of noxious weed spread.

- 1) Check vehicle tires and undercarriage when entering or leaving a work site, knocking or washing off mud and removing weeds; keep equipment (including boots) clean and free of weeds and seeds.
- 2) Use only noxious weed-free seed for re-vegetation projects, and if in doubt request certified seed.
- 3) Encourage or require contractors to do all of the above.

We are ALL responsible for the prevention and control of noxious weeds.

Anchusa officinalis (ANOF)
Common bugloss, alkanet
Borage Family (*Boraginaceae*)

RANGE AND HABITAT: I-90 corridor near Lk. Keechelus, Cle Elum Ranger District. E. of the Cascade Mts., WA. Along roadsides and other disturbed places. Native of the Mediterranean region.

SIMILAR SPECIES: Can be confused with other weedy *Anchusa* species, and other members of the Borage family. **Look for a straight corolla (petals) tube not much longer than the well-developed, spreading lobes; corolla lobes 6-11 mm wide; calyx (sepals) lobes nearly the length of the corolla.**

REMARKS: "Alkanet" is a common name for *Anchusa* and for a member of the *Lithospermum* genus, also in the Borage family. Members of one or both of these genres were once used as a red dye in cosmetics, and in ointments for treatment of sores, cuts, and bruises.

WA State Noxious Weed Control Board



Anchusa officinalis

Boraginaceae

Common bugloss, alkanet

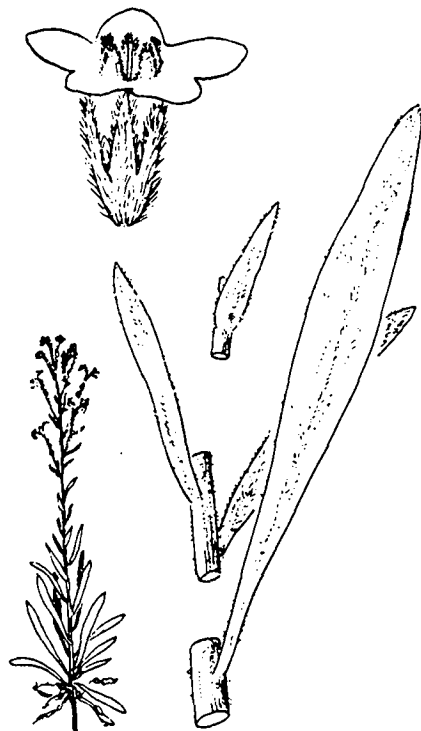
DESCRIPTION: A tap-rooted perennial, often multi-stemmed, 3-8 dm (1-2.5') tall, and covered with coarse, often sharp, spreading hairs.

LEAVES: Lower leaves relatively narrow, broadest at the tip, mostly 6-20 cm long (including stalk) and 1-2.5 cm wide. Upper leaves gradually reduced, becoming sessile (stalkless) and narrower.

FLOWERS: (May through July) Blue, 6-11 mm long, with the corolla fused into a tube spreading into 5 lobes; lobes are each 6-11 mm wide. The flower stalk is curved and straightens with maturity.

FRUITS: Separated into 4 parts (nutlets) < 2mm high, with tips pointed inwards.

1 cm
(.5 in)



15 cm
(6 in)



nutlets



Carduus nutans (CANU5)

Musk thistle

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Cle Elum Ranger District. Widespread throughout the United States and Canada. Pastures, range and forest lands, roadsides, waste areas, ditchbanks, grain fields. Native of s. Europe and w. Asia.

SIMILAR SPECIES: The large, broad, flat, showy head with bracts resembling a miniature artichoke is unique among the thistles, both native and weedy, that inhabit our area.

REMARKS: "Carduus" was the original name for thistle. "nutans" describes the nodding heads. Introduced in the early part of this century, this species increases under heavy grazing pressure. Cutting below ground level or pulling are effective controls.

WA State Noxious Weed Control Board



Carduus nutans

Asteraceae; Compositae

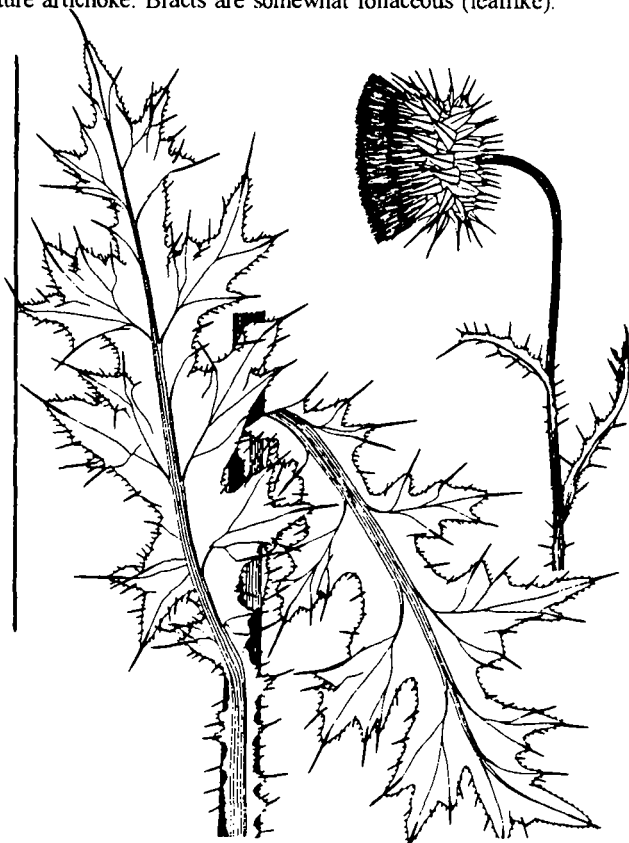
Musk thistle

DESCRIPTION: A biennial or, rarely, a winter annual, 3 to often over 25 dm (6') tall. Thick stems are sparingly branched above, tipped with large, nodding heads.

LEAVES: Sometimes exceeding 3 dm (1') long, leaves are dark green with prominent light green mid-rib; margins deeply lobed, with stiff yellow spines. Generally hairless undersides may have hairs along midrib and veins. **Leaves extend onto the stem, giving it a wing-like appearance.**

FLOWERS: (June to October) Deep rose to violet or purple (occasionally white). Attractive, broad, flat heads are 5-10 cm across, with ray flowers absent. Flower heads subtended by spreading, spiny outer bracts, reminiscent of a miniature artichoke. Bracts are somewhat foliaceous (leaflike).

19 cm
(7.5 in)



Centaurea diffusa (CEDI)

Diffuse knapweed

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Widespread on the Wenatchee National Forest. E. WA, e. OR, ID, MT, some e. and midwest states. Roadsides, railroad corridors, rockpits, waste areas, open timber, rangeland, pastures. Native of Europe.

SIMILAR SPECIES: The similar *C. maculosa* has pink flowers with non-spiny, black fringe-tipped involucral bracts (at base of flower head) (*C. diffusa* has spine-tipped, fringed involucral bracts).

REMARKS: "Centaurea" is from the Greek "Kentaurion", a plant of the Centaurs. Knapweed outcompetes native vegetation, leaving land less valuable for recreation, wildlife, and livestock use. Knapweeds compete against other plants in part by changing soil suitability with allelopathins. Diffuse knapweed was probably introduced into WA in 1907 near Bingen, along the Columbia R.. One plant will produce up to 1,200 seeds per season, viable for up to 8 years in the soil.

WA State Noxious Weed Control Board



Centaurea diffusa

Asteraceae; Compositae

Diffuse knapweed

DESCRIPTION: A many-branched, sometimes bushy, green-stemmed biennial or short-lived perennial, up to 9 dm (3') tall. Flower heads are solitary on numerous branch tips.

LEAVES: Grayish-green, both basal rosette and cauline (stem) leaves divided into many narrow segments. Upper leaves are bract-like.

FLOWERS: (June to September) White to pink or purple. Flower heads are small, with involuclral bracts that are overlapping, fringed, and tipped by a slender spine (terminal spine is the longest); involucre is 8-10 mm high. The involuclres are somewhat prickly.



.8cm
(.3 in)

***Centaurea jacea* x *nigra* (CENIJ)**

Meadow knapweed

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Naches and Cle Elum (Snoqualmie Pass) Ranger Districts. B.C. through WA, n. CA, and n.e. and n. central states. Meadows, fields and pastures, forested areas, clearcuts, roadsides, waste areas. Tolerates partial shade. Native of Europe.

SIMILAR SPECIES: *C. maculosa* is most similar, with pink flowers, and non-spiny, black-tipped involucre bracts. *C. repens* has large, showy flower heads, and non-divided, lance-shaped leaves (*C. jacea* x *nigra* has pink to rose flowers, golden to brown, deeply fringed involucre bracts, and lobed leaves).

REMARKS: *C. jacea* x *nigra* is a hybrid of brown and black knapweeds. Heads are large and showy compared to other common knapweeds. (See **REMARKS**, *C. diffusa*.)



Centaurea jacea x *nigra*

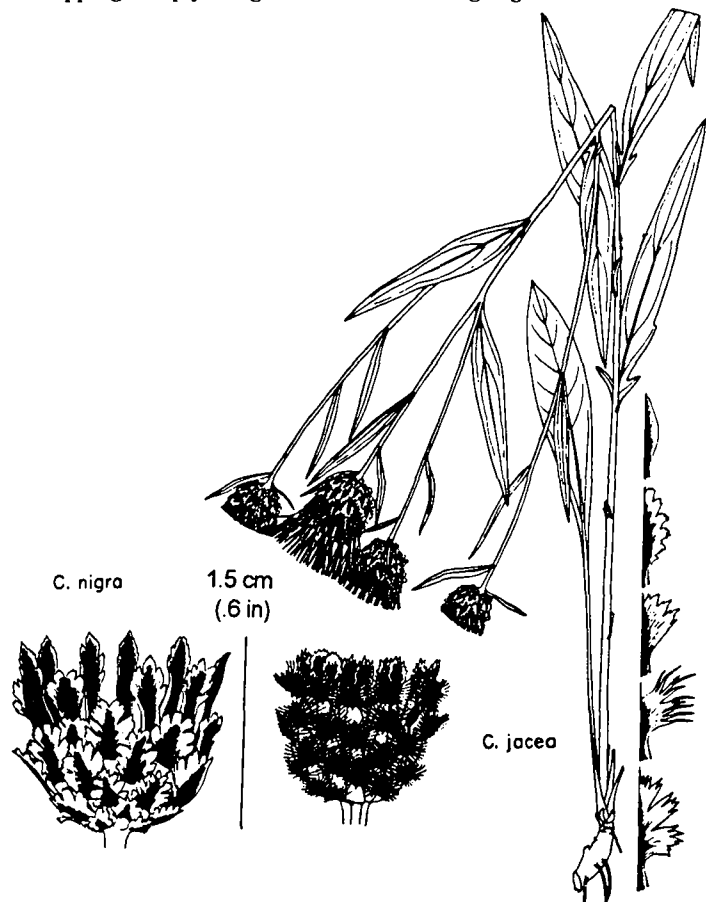
Asteraceae; Compositae

Meadow knapweed

DESCRIPTION: A branched, green-stemmed perennial, up to 1 m (3.5') tall; flower heads are solitary on numerous branch tips.

LEAVES: The lance-shaped leaves are coarsely lobed at the base, becoming progressively smaller and more numerous up the stem.

FLOWERS: (July to October) Rose-pink to purple. Involucral bracts are overlapping, deeply fringed and comb-like, light golden to dark brown.



***Centaurea maculosa* (CEMA)**
Spotted knapweed
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Widespread on the Wenatchee National Forest, mainly in areas of maritime influence. Chiefly e. WA; MT, OR, other w. states, n.e. and n. central states. Roadsides, railroad corridors, other disturbed places, fields, rangeland. Thrives in fairly dry conditions. Native of Europe.

SIMILAR SPECIES: Often associated and confused with *C. diffusa*, which has both white and purple flowers, and involucre bracts (at base of flower head) that are fringed and spine-tipped. *C. jacea* x *nigra* has pink to rose flowers, and golden to brown, deeply fringed involucre bracts (*C. maculosa* has pink flowers, and non-spiny, black-tipped involucre bracts).

REMARKS: "maculosa" means spotted, referring to the appearance of the black involucre bract fringe. Introduced into WA in 1923 on the San Juan Islands, possibly from British Columbia. On very harsh sites, *C. maculosa* tends to give way to *C. diffusa*. (See **REMARKS**, *C. diffusa*.)

WA State Noxious Weed Control Board



Centaurea maculosa

Asteraceae; Compositae

Spotted knapweed

DESCRIPTION: A branched, tap-rooted biennial or short-lived perennial, 3-9 dm (1-3') tall, with flower heads solitary on numerous branch tips. **Stems covered with dense, white hair.**

LEAVES: A rosette of often deeply lobed basal leaves, up to 16 cm long. Cauline (stem) leaves are alternate, pinnately divided, with narrow segments.

FLOWERS: (June to October) Lavender to purple. Heads are 2-5 mm wide, 16-20 mm high, with enlarged outer disk flowers. **The greenish involucrel bracts are 1-2 mm long, overlapping, and tipped with a short, black, comb-like fringe.**



1.5 cm
(.6 in)



Centaurea repens (CERE)

Russian knapweed

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: WA, OR, ID, MT, B.C., Alberta, Saskatchewan. Hay fields, rangeland, pastures, orchards, railways, roadsides; thrives in moister, less harsh sites than some other knapweeds. Native of Turkestan.

SIMILAR SPECIES: This species is wholly distinct from other knapweeds.

REMARKS: Spreads from deep, extensive roots. *C. repens* was introduced into Canada in the late 1890's as a seed contaminant, then into Yakima Co., WA in the 1920's. Continued spread is primarily due to the sale of contaminated hay. *C. repens* causes "chewing disease" in horses. (See **REMARKS**, *C. diffusa*).

WA State Noxious Weed Control Board



Flowers in bud stage

Wenatchee National Forest



Centaurea repens

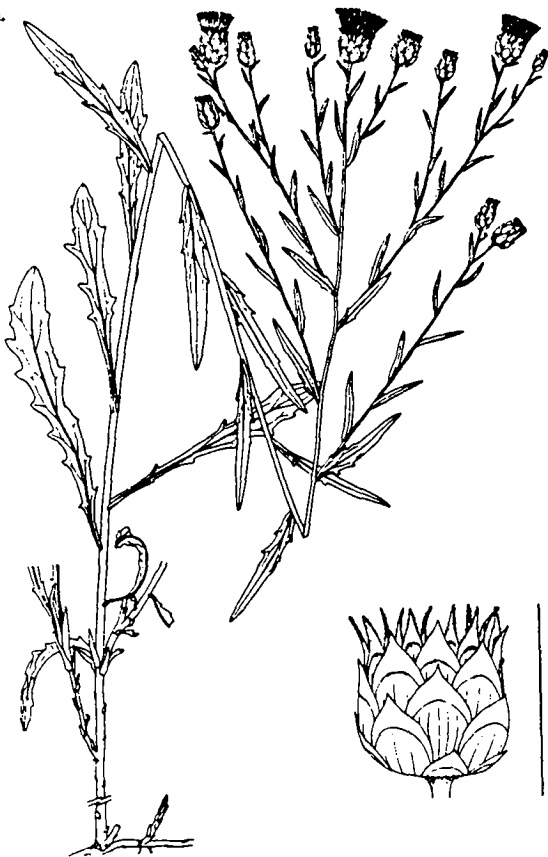
Asteraceae; Compositae

Russian knapweed

DESCRIPTION: A deep-rooted perennial herb with a single, extensively branched stem, 2-10 dm (.5-3.5') tall. Flower heads are solitary on the numerous branch tips.

LEAVES: Basal rosette leaves are spear-shaped, irregularly lobed, 5-10 cm x 1-2.5 cm. Lower stem leaves are toothed or lobed, alternate, 12 cm x 5 cm; upper ones are reduced, narrow, and entire.

FLOWERS: (June to September) **Pink to purple, straw-colored when mature.** Flower heads are numerous, 1.5 cm tall and 1.5 cm wide. **Involucral bracts (layers of bracts at base of flower head) have greenish bases and finely haired, papery tips; the margins are not spiny, fringed, or enlarged.**



Centaurea solstitialis (CESO)

Yellow starthistle

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Chelan and Leavenworth Ranger Districts. E. WA, CA, Ontario to IA, FL. Roadsides, waste areas, cultivated fields. Native of Europe.

SIMILAR SPECIES: When in bloom, this knapweed is not easily confused with any others because of its yellow flowers and long spines on the involucre bracts (at base of flower head).

REMARKS: "solstitialis" probably refers to the sun (sol), and the yellow flower. This knapweed is winter active, when it can achieve extensive root elongation. *C. solstitialis* causes "chewing disease" in horses. (See **REMARKS**, *C. diffusa*).

Knapweed Steering Committee



Centaurea solstitialis

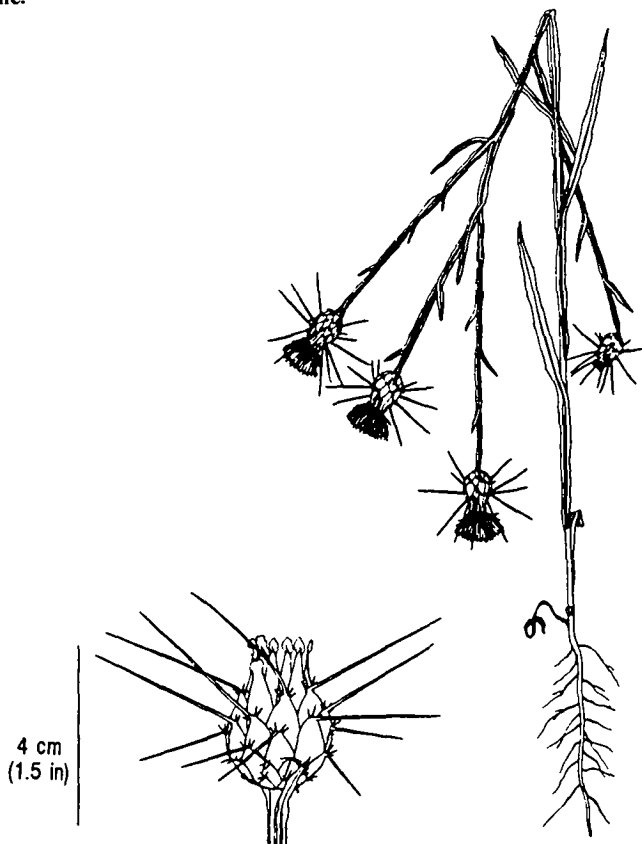
Asteraceae; Compositae

Yellow starthistle

DESCRIPTION: An annual with rigid, spreading branches, 3-10 dm (2-3.5') tall. Flower heads are solitary on numerous branch tips.

LEAVES: Basal rosette leaves are deeply lobed with pointed tips. Cauline (stem) leaves are entire with pointed tips, linear to lanceolate.

FLOWERS: (June through September) Yellow, each head 2-3 cm in diameter. Involucral bracts are overlapping, ornamented with a prominent 1-2 cm spine, and 1 or more short spines near the base of the main spine.



Chondrilla juncea (CHJU)

Rush skeletonweed

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Widespread in e. WA, ID, OR, and CA. Thrives in well-drained, light-textured soils along roadsides, cultivated fields, pastures, rangelands, open forests. Native of Eurasia.

SIMILAR SPECIES: Easily distinguished after early-summer stem growth, when stems are green, multi-branched, and appear bare (leaves are very reduced); resembles a broomy shrub.

REMARKS: "Chondrilla" means lump, refering to the lump-like flower heads scattered along the rush-like stems; "juncus" means rush. Soil disturbance aids in establishment; skeletonweed has an extensive, deep root system, making it difficult to control.

WA State Noxious Weed Control Board



Chondrilla juncea

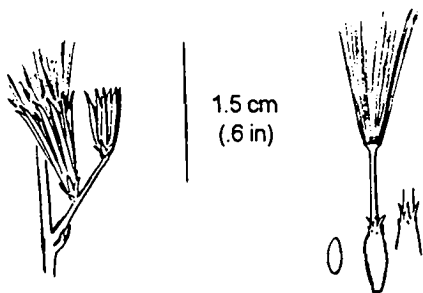
Asteraceae; Compositae

Rush skeletonweed

DESCRIPTION: A milky-sapped, extensively-branched perennial, with thin, wiry, green stems, 3-12 dm (1-4') tall; lower stems have coarse hairs bent downwards, upper stems are smooth.

LEAVES: Sharply-toothed leaves form a basal rosette, the teeth pointed backward; the rosette withers as the flower stem develops. Stem leaves are inconspicuous, narrow and entire.

FLOWERS: (July through September) Yellow, strap-like flowers are in small heads, with 7-15 flowers per head. **There are no disk flowers. Heads are scattered along branches.**



achene

***Chrysanthemum leucanthemum* (CHLE2)**

Oxeye-daisy, Marguerite daisy

Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Widespread on the Wenatchee National Forest. Widely escaped from cultivation. Meadows, pastures, roadsides, wasteplaces, other disturbed areas with adequate moisture. Native of Eurasia.

SIMILAR SPECIES: All *Chrysanthemum* species are introduced. To distinguish from a native composite, look at habitat and the combination of a relatively large, usually solitary white flower with a yellow eye, and spatulate leaves with scalloped edges. The weedy *Anthemis*, dogfennel, has more finely divided foliage.

REMARKS: The Greek "chrysanthemon" means golden flower. "leucanthemum" means white, the color of the ray flowers on all our introduced *Chrysanthemum* species.

Wenatchee National Forest

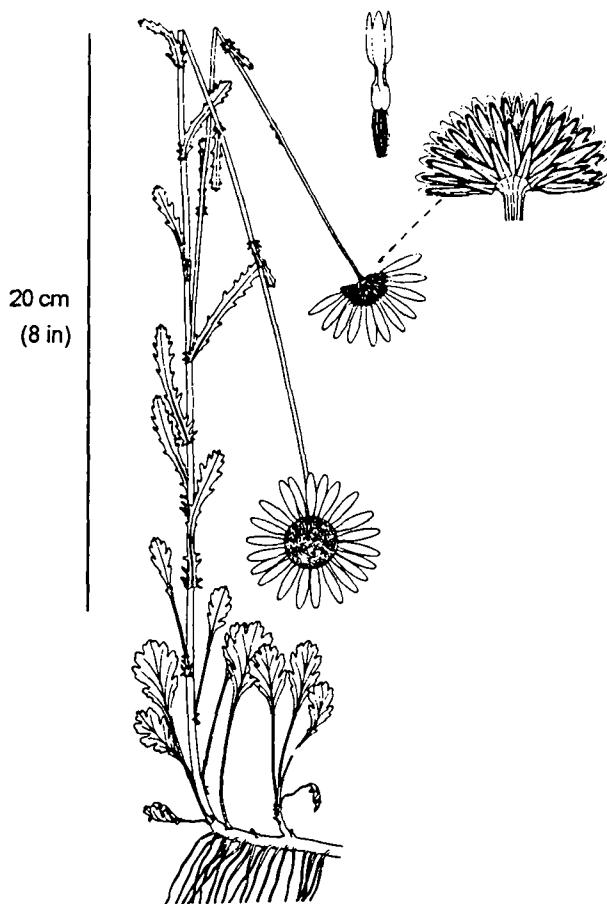


Chrysanthemum leucanthemum Asteraceae; Compositae
Oxeye-daisy, Marguerite daisy

DESCRIPTION: An erect perennial herb with a usually solitary daisy flower head.

LEAVES: Lower leaves largest, petiolate (stalked), **spatulate-shaped**, with **crenate (rounded teeth)** to lobed margins. Upper stem leaves reduced in size, lacking a petiole, with a toothed margin.

FLOWERS: (June through August) **Daisy-like**, with white rays surrounding a yellow disk. The ray flowers are 1-2 cm long, the disk is 1-2 cm wide.



***Crupina vulgaris* (CRVU)**
Common crupina
Aster family (*Asteraceae*; *Compositae*)

RANGE and HABITAT: Along the n. shore of Lk. Chelan at 1,000-4,000', Chelan Ranger District. WA, ID, OR, CA; Russia. In the PNW, primarily invades s. slopes in canyon grasslands. Also in gravel pits, roadsides, railroad corridors, forests, rangeland, pastures. Mainly associated with cheat grass, wheat grass, annual fescues, *Lupine*, arrowleaf balsamroot; also in disturbed ponderosa pine/Douglas-fir sites with ocean spray, smooth sumac, poison ivy. Native of the e. Mediterranean region.

SIMILAR SPECIES: May possibly be confused with knapweeds (*Centaurea*). Most knapweeds have spines or a fringe on the involucre bract tips (beneath the flower head); *Crupina* involucre bracts taper to a firm, non-spiny, non-fringed point. *Crupina* seed is also distinctive, with dark, stiff bristles encircling the broad end of the seed.

REMARKS: A winter-active annual, *Crupina* germinates in the fall, overwintering in the cotyledon stage. Seed viability is less than 3 years in the soil, with 85% germination the year produced. First reported in the U.S. near Grangeville, ID in 1969, it now occupies over 50,000 acres, and has the potential to spread over much of the PNW and Intermountain regions. Handpulling is an effective control; burning has potential.

Courtesy of Dr. Donald Thill/U. of Idaho Weed Science



Crupina vulgaris

Asteraceae; Compositae

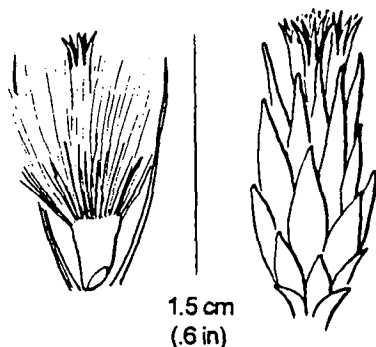
Common crupina

DESCRIPTION: A slender, leafy annual, 3-12 dm (1-4') tall, with flowering side branches.

LEAVES: Cotyledons ("seed leaves") are fleshy, 1.25-2.5 cm long, with a **distinctive red or purple midvein**. Basal rosette leaves have entire to slightly toothed margins; older rosette and stem leaves are lobed, and **armed with short, stiff spines along leaf margins that give the leaves a rough, coarse texture**. Stem leaves are up to 7 cm long, and once or twice divided.

FLOWERS: (May through June) Purple to lavender flowers are in **long, narrow heads**, 1.5-2 cm long, with 1-5 flower heads per branch. Involucral bracts taper to a firm, non-spiny, non-fringed point.

FRUIT: Achene (seed) is 4-5 mm long, resembling a smooth, golden to black-colored wheat kernel, **with a ring of dark, black bristles encircling the broad end of the seed**.



Cytisus scoparius (CYSE)

Scotch broom

Pea family (*Fabaceae*; *Leguminosae*)

RANGE AND HABITAT: Several sites on the Wenatchee National Forest, mainly areas of maritime influence. In WA, coastal to barely e. of the Cascades; widespread on Pacific coast, B.C. to CA. Yards, pastures, forests, wasteland, roadsides, other disturbed areas. Native of Europe.

SIMILAR SPECIES: This plant is fairly distinct due to its "broomy" appearance, completely green stems and tiny green leaves.

REMARKS: Cut branches were once used for brooms. *C. scoparius* has a history of medicinal use in both Europe and the U.S., although many American herbalists consider it too dangerous to use. It is often cultivated as an ornamental, and has in the past been planted along highways.

Fitchy Harrod/Wenatchee National Forest



Cytisus scoparius

Fabaceae; Leguminosae

Scotch broom

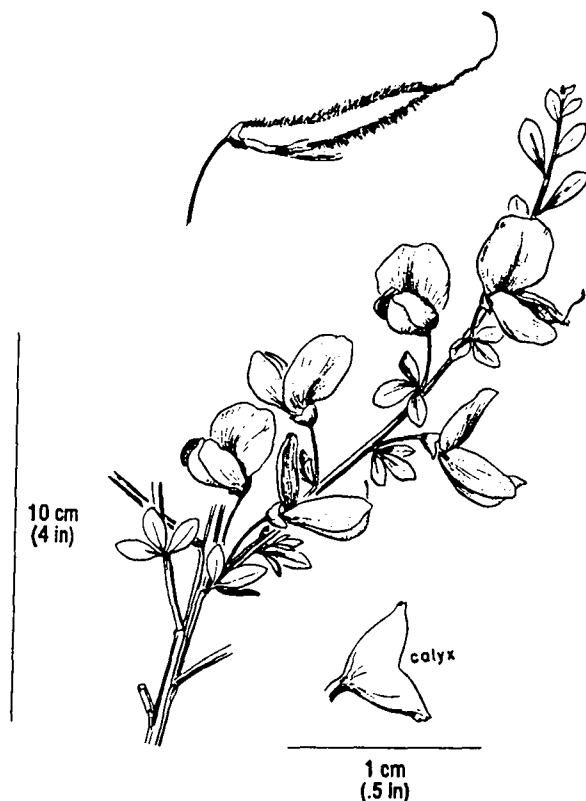
DESCRIPTION: A hardy, deciduous, perennial shrub, up to 3 m (10') tall, with erect, dark green branches.

LEAVES: Small, sparse, alternate, with lower leaves divided into 3 leaflets.

STEMS: Dark green and angled.

FLOWERS: (May through July) Dark yellow, sometimes purplish. The numerous pea-like flowers are quite showy.

FRUIT: Seeds held in brownish, pea-like pods. Seeds can remain viable in the soil for years.



Echium vulgare (ECVU)
Blueweed, viper's bugloss
Borage family (*Boraginaceae*)

RANGE AND HABITAT: I-90 corridor near Snoqualmie Pass, Cle Elum Ranger District; scattered in n.e. and c. WA; MT, NE, possibly elsewhere. Roadside and fields. Native of Europe.

SIMILAR SPECIES: May possibly be confused with the weedy *Anchusa* genus, also called bugloss (see *A. officinalis* in this book). Lobes of the tube-like corolla (petals) are equal in *Anchusa*; *Echium* has unequal petals.

REMARKS: The Greek "echion" is derived from a word meaning viper. A state proclamation was issued against blueweed when it appeared in Australia, where the plant became known as "Patterson's curse", after the settler who introduced the seed.

Wenatchee National Forest



Echium vulgare

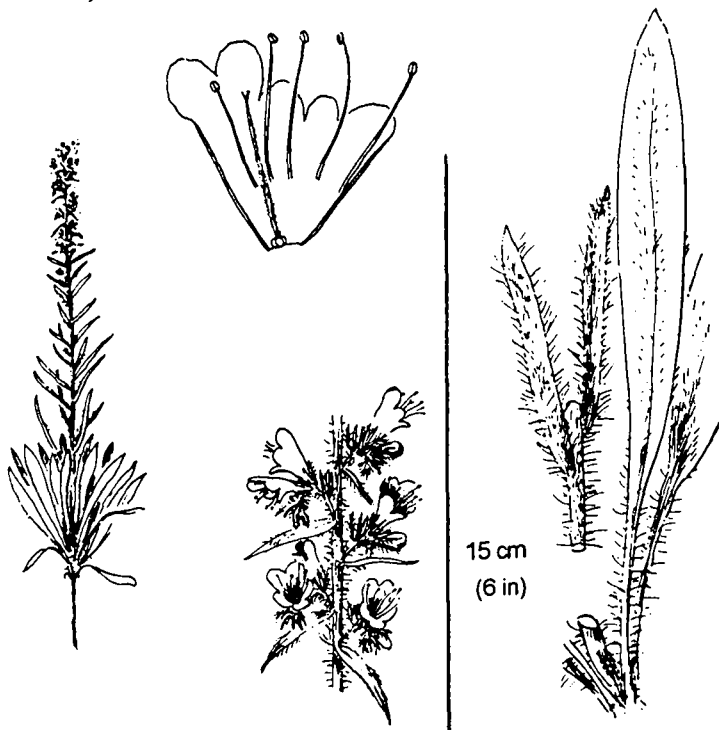
Boraginaceae

Blueweed, viper's bugloss

DESCRIPTION: An erect, unbranched biennial, 3-8 dm (1-2.5') tall, with hairy leaves and stem.

LEAVES: Basal leaves are lance-shaped, 6-25 x 0.5-3 cm; cauline (stem) leaves becoming progressively smaller; all leaves are hairy.

FLOWERS: Bright blue, occasionally pink or white, buds pink or red. Bell-shaped flower, 12-20 mm wide, the 5 petal lobes are unequal in size, with the upper 2 lobes being larger than the lower 3. Anthers are longer than (exserted from) the flower.



Euphorbia esula (EUES)
Leafy spurge
Spurge family (*Euphorbiaceae*)

RANGE AND HABITAT: Widespread in n. U.S. and adjacent Canada. Rangelands, pastures, waste areas; commonly along streambanks. Native of Eurasia.

SIMILAR SPECIES: May be mistaken for other *Euphorbia* species, many of which are also weeds. **Look for narrow, elongated leaves that are alternate on the lower stem (not opposite), 2-6 cm long (not 1-2 cm long), and without stipules (appendages at leaf base).**

REMARKS: Leafy spurge was brought into the U.S. as a seed contaminant around 1827. Reproduces by seed and vigorous, woody rootstocks; extensive rooting depths and large nutrient reserves makes control difficult. This species has been reported to cause severe irritation of the mouth and digestive tract in cattle, which may result in death.



Euphorbia esula

Euphorbiaceae

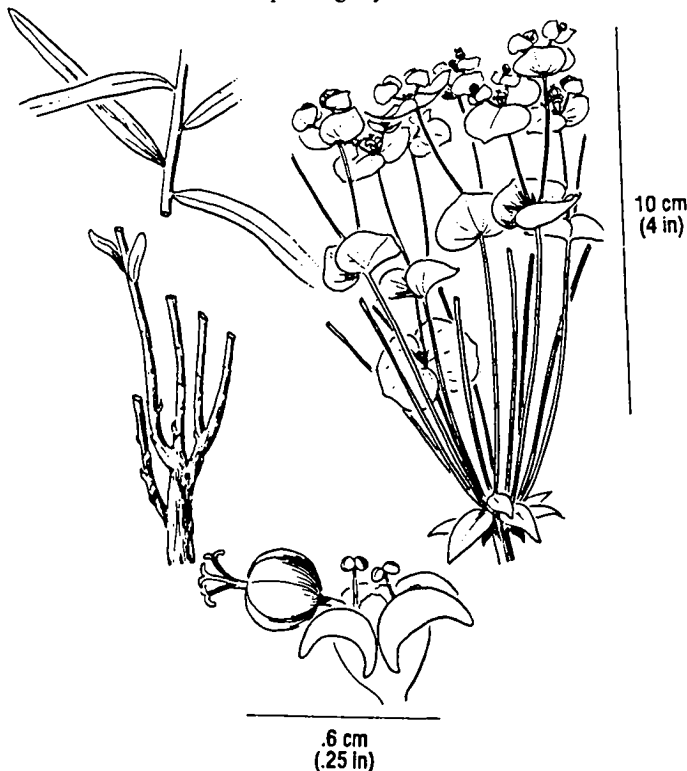
Leafy spurge

DESCRIPTION: A milky-sapped perennial with smooth, erect stems, 1 m (3') tall; stems generally have numerous weak, sterile side branches.

LEAVES: Lower stem leaves are alternate, stalkless, and narrow, 2-10 cm long. Upper leaves of the flowering branches are broadly heart-shaped and paired, each pair clasping the stem.

FLOWERS: (May to June) Yellowish-green, small, in numerous clusters enclosed by paired, heart-shaped, yellow-green bracts resembling miniature, stout horns. Entire plant turns red or orange-red in fall.

FRUITS: Three-celled capsules, each with a single, oblong, grayish-purple seed. Capsules explode when dry, projecting seeds up to 6 m (20'). Seeds may remain viable in the soil for up to eight years.



Hieracium aurantiacum (HIAV), *H. pratense* (HIPR) -
Orange and yellow hawkweeds
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Gold Creek Rd. near I-90 at Snoqualmie Pass on the Cle Elum Ranger District. W. and n.e. WA; ID, MT, WY. Meadows, forested areas, clearcuts, roadsides, gardens. Introduced.

SIMILAR SPECIES: Orange hawkweed is unmistakable because of its burnt orange-red flowers. Yellow hawkweed is identical except for flower color, but may be confused with other yellow-flowered composites. Look for a nearly leafless, hairy stem with basal leaves and 5-30 flower heads.

REMARKS: "Hieracium" refers to the Greek "hierax", hawk, an unclear association. The striking color of orange hawkweed is attractive to gardeners, who may unwittingly encourage the plant's spread.

WA State Noxious Weed Control Board



Hieracium aurantiacum, *H. pratense* *Asteraceae*
Orange and yellow hawkweeds

DESCRIPTION: A perennial herb, up to 9 dm (3') tall, often with stems creeping on ground surface (stolons). Cut plant exudes a milky latex, and is hairy throughout.

LEAVES: 1, 2, or no reduced cauline (stem) leaves. Most leaves basal, lanceolate to ovate in shape; margins are entire.

FLOWERS: (Mid to late summer) Burnt orange-red (*H. aurantiacum*) or yellow (*H. pratense*), **strap-shaped flowers with notched tips**. 5-30 flower heads are loosely clustered at top of stem.



1 cm
(.5 in)

Hypochaeris radicata (HYRA)
Spotted cat's-ear, false dandelion
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: I-90 corridor near Snoqualmie Pass, Cle Elum Ranger District, also Stehekin area, Chelan Ranger District; possibly in the Steven's Pass corridor. Chiefly w. of the Cascade Mts. in WA; widely established in U.S. and Canada. Lawns, pastures, gardens, roadsides, disturbed areas. Native of Europe.

SIMILAR SPECIES: Can be confused with many other yellow Composite species. Look for hairy, dandelion-like leaves that are in a basal rosette only (no stem leaves); tough, wiry, branched stems, and heads containing only ray flowers. Please check *Agoseris elata* in the rare plant section of this book to ensure no mistakes!

REMARKS: Hairy cat's-ear refers to the rough, hairy basal leaves. The thick basal rosette can smother grass in a lawn.



Hypochaeris radicata

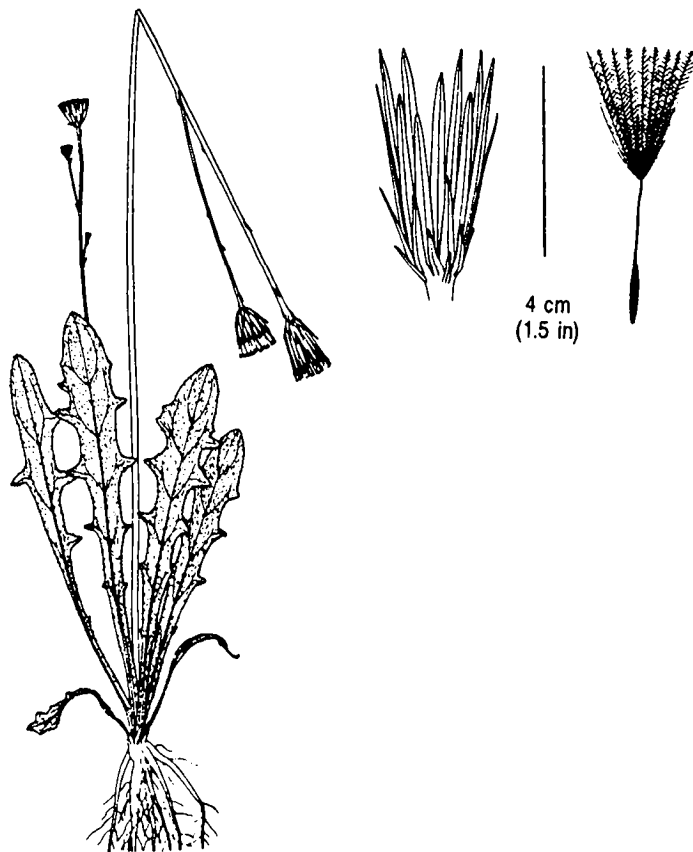
Asteraceae; Compositae

Spotted cat's-ear, false dandelion

DESCRIPTION: A perennial, up to 60 cm (2') tall, with milky juice, and wiry, leafless, branched stems tipped with yellow flower heads.

LEAVES: The dark green leaves are lobed or toothed, rough-hairy, and often wavy. They grow only in a basal rosette; stem leaves are absent.

FLOWERS: (May to October) Bright yellow flower heads contain ray flowers only. The involucre (set of bracts surrounding the flower head base) is 10-15 mm tall at full bloom. Flowers open in both sunny and overcast conditions.



Isatis tinctoria (ISTI)
Dyers woad
Mustard Family (*Brassicaceae*)

RANGE AND HABITAT: One known population in WA, near Cle Elum, Kittitas Co. Roadsides, railroad right-of-ways. Native of Europe.

SIMILAR SPECIES: Flowers are similar to many other mustards, but the oblong, hanging, purple-brown seed pods are quite distinctive.

REMARKS: Dyers woad was brought into the U.S. during colonial times as a source of blue dye. Seedlings are sometimes still sold at commercial outlets in WA for horticultural use. It spreads by seed, and when cut, can regenerate from an over 5' long tap root.

Kittitas County Cooperative Extension



Isatis tinctoria

Brassicaceae

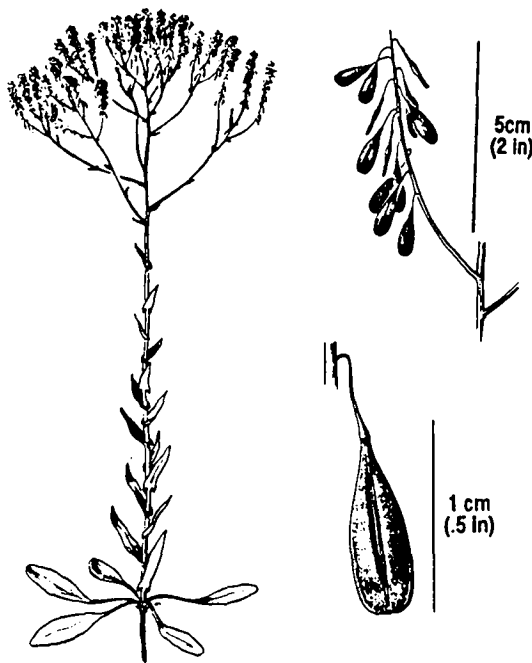
Dyers woad

DESCRIPTION: A winter annual, biennial, or short-lived perennial, 3-12 dm (1-4') tall, with multiple stems branching near the top.

LEAVES: Bluish-green, with leaf margins entire. Basal leaves are oval to oval lance-shaped, up to 18 cm long, and stalked; cauline (stem) leaves are narrower, stalkless, and clasp the stem.

FLOWERS: Yellow, with 4 spatulate petals, each about 3.5 mm long. Numerous flowers are held in flat-topped, loose inflorescences.

FRUIT: The distinctive silicles (pods) are 12-18 x 5-7 mm, purple-brown, oblong, containing 1 seed each. Numerous silicles hang down from the old flower stalk. Seeds disperse in late spring.



***Lepideum latifolium* (LELA)**

Perennial pepperweed

Mustard family (*Brassicaceae*; *Cruciferae*)

RANGE AND HABITAT: I-90 corridor near Snoqualmie Pass, Cle Elum Ranger District, also in vicinity of Leavenworth Ranger District. Occasionally in WA, ID, MT. Invades cropland, ditches, roadsides, wet areas, and waste places. Native of s. Europe and w. Asia.

SIMILAR SPECIES: There are several similar brassicas. **Look for the following combination:** White flowers; oval, flattened seed pods (silicles) each containing 2 seeds; generally hairless plant; leaves not perforated and lacking wings (auricles).

REMARKS: "Lepis" is a Greek reference to scalelike, describing the small, scalelike silicles; "latifolium" means broad-leaved, broad-leaved peppergrass being another common name for this species. The old family name "Cruciferae" means crucifix, referring to the 4-petaled flower universal to this family. A deep rootstock makes this plant difficult to control.

WA State Noxious Weed Control Board



Lepidium latifolium

Brassicaceae; Cruciferae

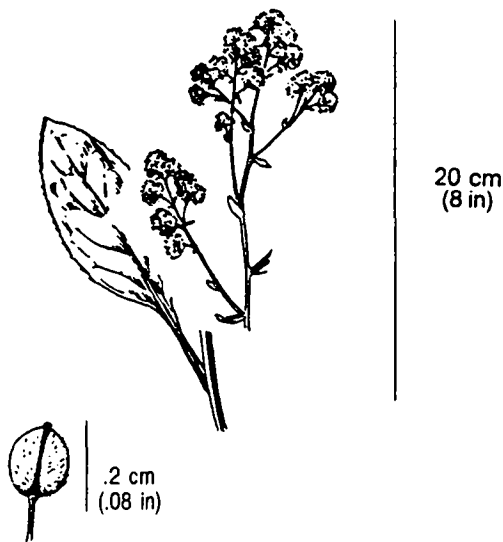
Perennial pepperweed

DESCRIPTION: A perennial, branched herb, 3-6 dm (1-3') tall, with dense clusters of white flowers. Plants spread mainly by rootstock.

LEAVES: Basal leaves up to 30 x 8 cm in size, with long petioles (stalks). Stem leaves reduced, nearly lacking petioles. Margins are entire to toothed (dentate). **Leaves neither perforated-appearing nor with auricles.**

FLOWERS: (June to late summer) White, 4-petaled, each petal approximately 1.5 mm long. **Flower clusters located near the branch tips.**

FRUITS: 2 seeds are held in each oval, flattened silicle (pod). **Silicles are slightly hairy, reddish-brown, approximately 2 mm long.**



Linaria genistifolia ssp. *dalmatica* (UGED)

Dalmation toadflax

Figwort family (*Scrophulariaceae*)

RANGE AND HABITAT: Frequent in c. WA, occasionally w. WA, elsewhere in the P.N.W.. Rangeland, pastures, roadsides, clearcuts, railways, also on undisturbed, open ground. Native of Mediterranean region.

SIMILAR SPECIES: *L. vulgaris* is also weedy, and has soft, linear leaves, 2-5 cm x 2-4 mm (dalmation toadflax has firm leaves).

REMARKS: Dalmation toadflax has attractive flowers, and was probably introduced as an ornamental. Its extensive root system and waxy leaves make it difficult to control with either mechanical or chemical means. Bumblebees are the usual pollinators, forcing open the flower to crawl inside. The seeds are spread in part by seed-eating birds; spread of this plant can be very rapid. Toadflax does especially well in sandy soils.

WA State Noxious Weed Control Board



Linaria genistifolia ssp. *dalmatica* *Scrophulariaceae*
Dalmation toadflax

DESCRIPTION: A multiple-branched, robust perennial, 4-15 dm (1-5') tall, with spikes of striking, snapdragon-like flowers.

LEAVES: The dense, alternate leaves are glaucous (with a white-waxy coating), firm, clasping, and sessile (stalkless), with entire margins.

FLOWERS: Attractive, bright yellow, with an orange throat. Flowers are two-lipped, with a long spur, 1.5-2 (4) cm long, including spur.

20 cm
(8 in)



Lythrum salicaria (LYSA)
Purple loosestrife
Loosestrife family (*Lythraceae*)

RANGE AND HABITAT: Several sites on the Wenatchee National Forest. Marshy areas in Puget Sound region, e. to Cashmere area and Columbia R., WA; c. and e. U.S.. Stream and pond banks, canals, ditches, wetlands. Native of Europe.

SIMILAR SPECIES: *L. alatum* is a similar, potentially weedy invader, with leaves which are not cordate-based (base notched like the top of a heart) (*L. salicaria* has cordate-based leaves).

REMARKS: "Lythrum" is of the Greek "luthron", or blood, referring either to flower color or to the plant's staining properties. This introduced European ornamental can choke waterways and seriously degrade wetlands by excluding native species. Oregon has released several insect species as a biological control.



Lythrum salicaria

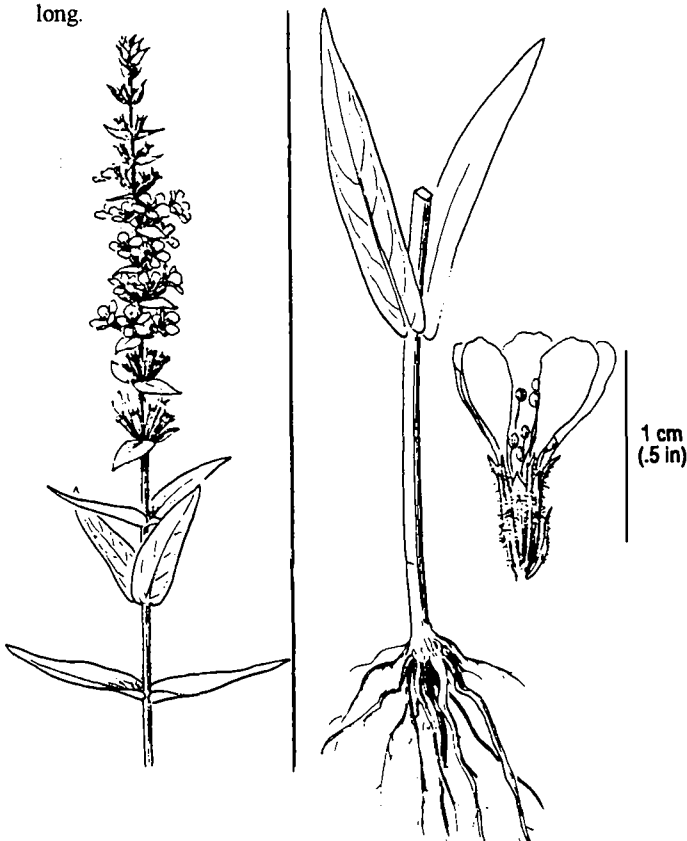
Lythraceae

Purple loosestrife

DESCRIPTION: A tall, erect perennial, up to 2.5 m (8') tall, with **showy flower spikes and square stems**.

LEAVES: 3-10 cm, the leaves are **cordate-based**, are opposite or whorled, and mainly sessile (stemless).

FLOWERS: Reddish to rose-purple, showy; the 5-7 petals are 7-10 mm long.



20 cm
(8 in)

1 cm
(.5 in)

Myriophyllum spicatum (MYSP)
Eurasian water-milfoil
Water-milfoil family (*Haloragaceae*)

RANGE AND HABITAT: Suspected on the Wenatchee National Forest; Columbia R. and elsewhere in e. WA, also in w. WA; widespread in N. America, BC to CA, and e.. Lakes, ponds, slow moving rivers, etc.. Native of Eurasia.

SIMILAR SPECIES: May be confused with other water-milfoils. Look for leaves mostly with 13-23 segments (as opposed to 25-37 leaf segments), and a simple, unbranched inflorescence (as opposed to branched).

REMARKS: The Greek "myrios" means thousand, while "phyllum" means leaf, a fitting name for a very invasive water plant. Eurasian water-milfoil forms thick mats which choke waterways, interfere with boat traffic, and create conditions of low oxygen and elevated temperatures hazardous to many aquatic species. It is easily spread from one water system to another by pieces of plant caught on boat propellers.

Kathy Hamil/WA State Dept. of Ecology



Myriophyllum spicatum

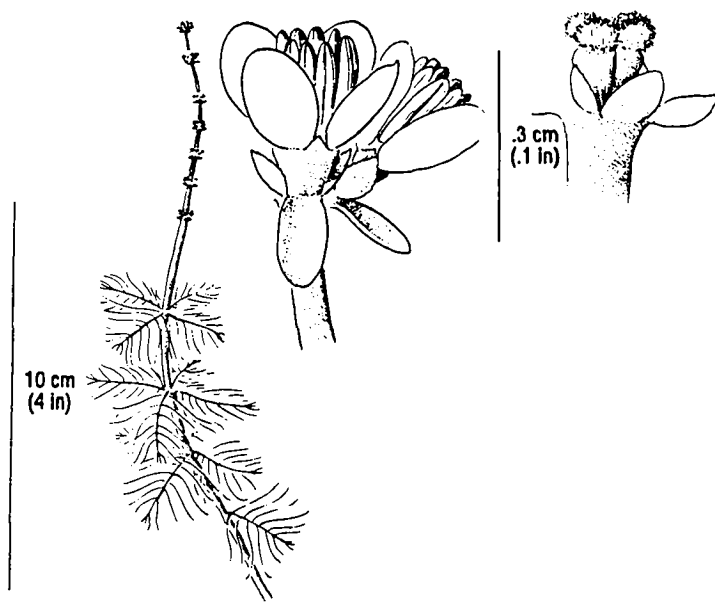
Haloragaceae

Eurasian water-milfoil

DESCRIPTION: An aquatic plant with feathery leaves in whorls.

LEAVES: Submerged leaves dissected into 13-23 segments, with a feathery appearance. The much smaller, emersed bract leaves, located at the base of each flower, are entire to deeply dissected, and usually considerably less than 7 mm long. The 2 bracteoles, located just above the bract leaves, are 1-1.5 mm long, greenish, with entire to ragged, whitish margins.

FLOWERS: 1 per axil on an unbranched inflorescence; calyx (sepals) lobes 4, petals 4 but quickly deciduous.



Onopordum acanthium (ONAC)

Scotch thistle

Aster Family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: I-90 corridor near Snoqualmie Pass, Cle Elum Ranger District. Sporadic e. of the Cascade Mts., concentrated along the Snake R., WA; sporadic elsewhere in U.S.. Invades grassland and sagebrush communities, mainly along roadsides and waste areas. Native of Eurasia.

SIMILAR SPECIES: *Cirsium* genus (Canada thistle) is most similar. *Cirsium* has a densely bristly receptacle. *Onopordum* has a flat, fleshy receptacle (part the flowers are attached to) which is not bristly, or only sparsely so, and has a honeycomb appearance.

REMARKS: The "granddaddy" of the thistles, it is an aggressive, drought tolerant plant that often forms stands so dense that they are impenetrable to livestock. "Onopordon" is from an ancient Greek name referring to the supposed ability of the genus to cause flatulence in donkeys.

WA State Noxious Weed Control Board



Onopordum acanthium

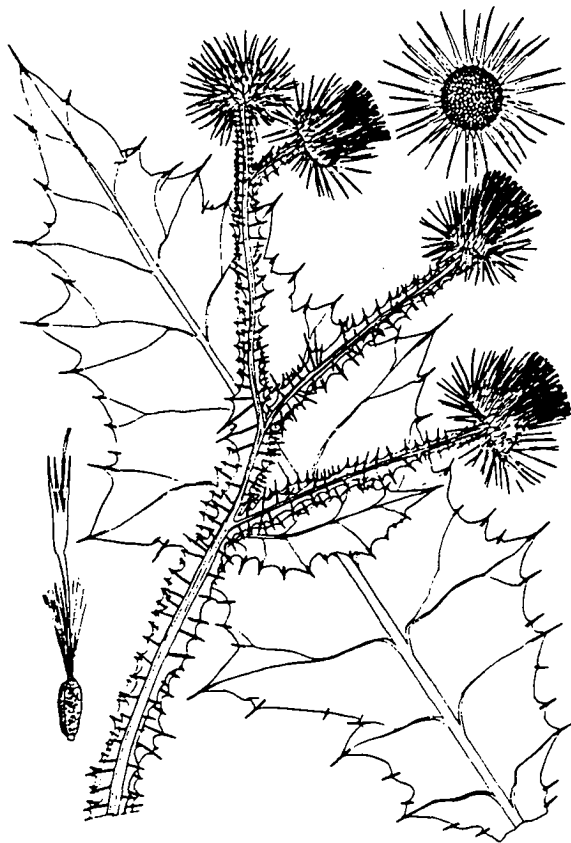
Asteraceae; Compositae

Scotch thistle

DESCRIPTION: An extensively branched biennial, reaching 2.7 m (9') tall. Stems and branches have broad, spiny wings, and are covered with vicious yellow spines and cottony hairs, giving a grayish appearance.

LEAVES: Alternate, white-wooley, toothed or lobed, with spines at tips. Basal leaves can reach 6 dm (2') long and 3 dm (1') wide.

FLOWERS: (July to September) Reddish to violet-purple. The numerous heads are 2.5-5 cm wide, subtended by spine-tipped, cottony bracts.



22 cm
(9 in)

Senecio jacobaea (SEJA)
Tansy ragwort
Aster family (*Asteraceae*; *Compositae*)

RANGE AND HABITAT: Cle Elum Ranger District and several other places on the Wenatchee National Forest. Greatest infestations in WA are w. of the Cascade Mts.; widespread in OR, CA. Rangeland, pastures, roadsides, campgrounds, clearcuts, disturbed sites. Native of Europe.

SIMILAR SPECIES: *S. eremophilus* (uncommon) has leaves lobed or toothed only once (*S. jacobaea* leaves are 2-3 times pinnate). **Most likely confused with the weed *Tanacetum vulgare*, common tansy, with similar leaves, but rayless, button-like flowers.**

REMARKS: "Senex" (from *Senecio*) means old man, referring to the hair-like pappus around the seed. Tansy ragwort contains alkaloids which cause irreversible liver damage, and is **extremely poisonous to cattle, horses, and humans**. Sheep and goats can safely graze it, and so are a good control measure, although milk from these animals should not be consumed. Honey from bees pasturing in tansy ragwort is also unsafe for consumption. It is not to be confused with common tansy, which has a long history of medicinal use. The cinnabar moth is a valuable biological control in w. WA where tansy ragwort is much more widespread; eradication rather than control is still preferred in e. WA.

WA State Noxious Weed Control Board



Senecio jacobaea

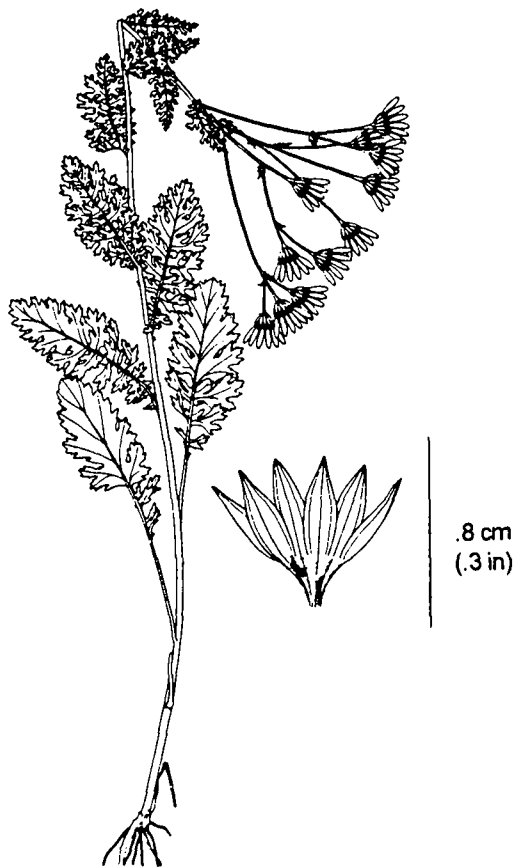
Asteraceae; Compositae

Tansy ragwort

DESCRIPTION: A biennial or short-lived perennial with a strong, branched stem, 3-18 dm (1-6') tall, crowned with clusters of daisy-like flower heads.

LEAVES: Divided 2 to 3 times into lobed and toothed segments, the terminal lobed usually larger than the others.

FLOWERS: (July to September) Golden-yellow, with each flower head containing both ray and disk flowers; rays number 10 to 15. Involucral bracts (at base of flower head) are black-tipped.



REFERENCES

- Kowalchik, Claire and W.H. Hylton, editors. 1987. Rodale's Illustrated Encyclopedia of Herbs. Rodale Press, Inc. 545 p.
- Potash, Laura L. 1991. Sensitive Plants and Noxious Weeds of the Mt. Baker-Snoqualmie National Forest. USDA Forest Service, Pacific Northwest Region R6-MBS-02-1991. 112 p.
- Hitchcock, C.L., A. Cronquist. 1973. Flora of the Pacific Northwest, 5th printing. Univ. of WA Press, Seattle, WA. 730 p.
- Hitchcock, C.L. and A. Cronquist, Ownbey and J.W. Thompson. 1955-1969. Vascular Plants of the Pacific Northwest, vols. 1-5. Univ. of WA Press, Seattle, WA.
- Taylor, Ronald J. 1990. Northwest Weeds, The Ugly and Beautiful Villains of Fields, Gardens, and Roadsides. Mountain Press Publishing Company, Missoula, MT. 177 p.
- Taylor, T.M.C. 1970. Pacific Northwest Ferns and Their Allies. Univ. of Toronto Press, Canada. 247 p.
- WA Natural Heritage Program. 1981. An Illustrated Guide to the Endangered, Threatened and Sensitive Plants of Washington. Dept. of Natural Resources, Olympia, WA. 328 p.
- WA Natural Heritage Program. 1990. Endangered, Threatened and Sensitive Vascular Plants of Washington. Dept. of Natural Resources, Olympia, WA. 52 p.
- USDA Forest Service. Threatened, Endangered and Sensitive Species of the Wenatchee National Forest. 1987. Unpublished document.
- Turner, Nancy J., et al. 1980. Ethnobotany of the Okanagan-Colville Indians of British Columbia and Washington. British Columbia Provincial Museum No. 21, Occasional Paper Series. 179 p.
- Whitson, Tom D., et al. 1991. Weeds of the West. Printed by Pioneer of Jackson Hole, Jackson, WY. 630 p.

GLOSSARY OF TERMS

Achene: A dry, 1-seeded fruit, remaining closed at maturity.

Acute: Sharp pointed (shape, not texture) with straight or nearly straight sides.

Alternate: Growing at alternating intervals along the stem (leaves) or arranged alternately between other parts (i.e. stamens between petals).

Ament: See Catkin.

Anther: The part of the stamen that bears the pollen, usually consisting of 1 or 2 pollen sacs.

Auricle: A small lobe or ear-like projection usually at the base of a leaf blade in grasses.

Awn: Slender, generally terminal bristle.

Axil: The angle between a leaf or similar part and the stem.

Axillary: Pertaining to or arising from an axil.

Banner: The uppermost, generally enlarged petal, of flowers in the pea family.

Beak: A prolonged, slender tip on a thicker organ such as a fruit or seed.

Bract (floral): A specialized leaf associated with an inflorescence or with a single flower.

Calyx: All the sepals of a flower as a group.

Capsule: A dry fruit containing 2 or more seeds that splits open at maturity.

Catkin: A dense, often drooping flower cluster, consisting of small, scale-like flowers (ament).

Cauline: On or pertaining to the stem.

Compound leaf: One with 2 or more distinct leaflets.

Corolla: All the petals of a flower together.

Cordate: Heart-shaped.

Deciduous: Falling off at the end of a season; not evergreen.

Dentate: With spreading, pointed teeth.

Dioecious: Meaning is "two houses", and refers to female flowers on one plant and male flowers on another plant.

Entire: Leaves without marginal teeth or lobes.

Evergreen: Foliage remains green throughout the year; not deciduous.

Floral: Pertaining to a flower or flowers.

Floret: A small flower, usually one of a large cluster such as in grasses.

Fruit: A ripened ovary with any other structures that ripen with and are joined to it.

Fronde: The usually compound leaf of a fern.

Galea: A helmet-shaped part or upper lip of some flowers.

Genus: A taxonomic class below a family and above a species (e.g. all pines are of one genus). Plural is genera.

Glabrous: Smooth and without hairs.

Gland: A structure on the surface of an organ that produces a sticky or greasy substance.

Glandular: Provided with glands or functioning as such.

Glaucous: Covered with a fine, whitish, waxy powder.

Glume: The outermost bracts in spikelets of grasses which do not subtend the individual florets.

Gynaecandrous: A spike (in *Carex* genus) with both male and female flowers, the male below the female.

Habit: The general growth form and appearance of a species.

Head: A dense, compact cluster of flowers.

- Herb:** A plant with a fleshy stem that dies back to ground level each year. A non-woody plant.
- Herbaceous:** Leaflike in color and texture; non-woody.
- Hirsute:** With moderately coarse, stiff hairs.
- Inflorescence:** A flower cluster of a plant, or the arrangement of the flowers on the plant.
- Involucre:** A whorl or series of bracts or scales beneath or around a flower cluster.
- Lanceolate:** Lance-shaped.
- Leaflet:** One of the segments of a compound leaf.
- Lemma:** One of the two bracts that normally subtend individual flowers in grass spikelets. It is the outer, lower bract. The palea is the inner, lower bract.
- Ligule:** A straplike structure as in the ray flower of some members of the sunflower family; or the membranous or hair-like appendage at the inside junction of a grass blade and sheath.
- Moderate:** Used in the context of not extreme in terms of temperature, elevation, and moisture.
- Midrib:** The main or central rib of a leaf.
- Monoecious:** Meaning is "one house" and it refers to plants with separate male and female flowers on the same plant.
- Nerve:** A prominent, longitudinal vein.
- Node:** The place on a stem where the leaf is or was attached.
- Noxious weed (WA State):** A non-native plant, particularly one that poses a threat to State lands or waterways.
- Oblanceolate:** A leaf shape widest above the midlength.
- Obtuse:** Blunt or rounded in shape; not sharp pointed.
- Opposite:** In pairs on either side of a stem at the same node.
- Orbicular:** Circular in outline.
- Ovate:** Egg-shaped.

Palmate: Resembling a hand with fingers extended. Three or more leaflets, etc. arising from a common point.

Panicle: A loose, irregular flower cluster with compound branching.

Pedicel: A small stalk bearing a small flower in an inflorescence.

Peduncle: The stalk of an inflorescence or of a solitary flower.

Perennial: A plant that lives more than two years.

Perigynium (sing.): Special bract enclosing the achene of *Carex*.

Persistent: Remaining attached after the normal function is completed.

Petiolate: With a petiole.

Petiole: Leaf stalk.

Plumose: Feathery or plume-like.

Pinna: Any leaflet of a pinnate leaf. Pinnae is plural.

Pinnate: With leaflets, lobes, etc. on each side of a common stem or axis. Feather-like.

Pistil: The seed-bearing organ of a flower, made up of the ovary, style and stigma.

Pistilate: Bearing pistils but not stamens.

Prickle: A small, sharp, usually slender outgrowth of the bark.

Pubescent: Covered with short hairs.

Raceme: An inflorescence with several to many stalked flowers arranged singly along a common stem or axis.

Rachis: A main axis of a leaf or inflorescence.

Ray flowers: The flowers in the sunflower or aster family with strap-shaped corollas.

Reflexed: Bent abruptly backward or downward.

Rhizome: A root-like underground stem that sends out shoots from its upper surface and roots from the lower surface.

Rosette: A basal cluster of leaves, flowers, etc.; arranged in a circle or disk.

Scale: A small, thin, flat structure.

Sepal: One of the outermost (typically green) parts of a flower.

Serrate: Leaves toothed along the margin with forward pointing teeth.

Sessile: Attached directly by the base with no pedicel or petiole.

Sheath: Any organ that surrounds another; part of the grass leaf that surrounds the stem.

Spatulate: Shaped like a spatula; rounded above and narrowed to the base.

Species: A taxonomic class below that of genus; generally refers to organisms capable of interbreeding.

Spike: An elongate inflorescence, with more or less sessile (stalkless) flowers.

Spikelet: A small or secondary spike, such as those found in the inflorescences of many grasses.

Spine: A firm, sharp pointed, modified leaf or stipule.

Stamen: The male part of a flower consisting of the anther and usually a stalk or filament.

Staminate: Having or producing stamens, or a flower with just stamens and no pistils.

Stellate: Arranged or shaped like a star; radiating from a center.

Stigma: Part of the pistil (female) which is receptive to pollen.

Stipule: One of the usually small, paired, leaf-like structures at the base of leaves on some plants.

Stolon: A creeping stem above the ground rooting at the nodes.

Style: Slender stalk connecting the stigma to the ovary.

Terminal: At the end or tip.

Thorn: A modified stem with a sharp point.

Throat: The outer expanded part of a tubular corolla; the upper margins of the sheath in grasses.

Trailing: Prostrate, but not rooting.

Umbel: A flat-topped inflorescence in which the individual flowers arise from about the same point like the ribs of an umbrella.

Vein: An externally visible vascular bundle.

Whorl: Three or more parts, radiating from a single point.

Illustration of Vegetative Structures

Leaf Arrangement



basal



node

opposite



axil

alternate



whorled

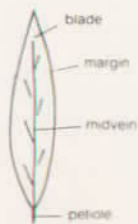
Leaf Shape



palmately lobed



pinnately lobed



lanceolate



ovate



elliptic

Grass Parts



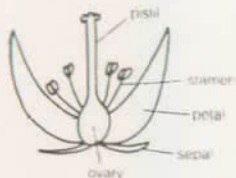
blade

ligule

auricle

sheath

Flower Parts



pistil

stamen

petal

sepal

ovary

USDA FOREST SERVICE
R-6 THREATENED, ENDANGERED, AND SENSITIVE
PLANT SIGHTING FORM

Taxon _____

Project Area _____

Date _____ Forest _____ District _____

USGS Quad. _____ County/State _____

Site # _____ Examiner/Affiliation _____

Legal T _____ R _____ sec. _____ 1/4 _____ of 1/4 _____

T _____ R _____ sec. _____ 1/4 _____ of 1/4 _____

T _____ R _____ sec. _____ 1/4 _____ of 1/4 _____

Location _____

Directions _____

Population Size _____ (indicate stems or clumps)

Distribution _____ Total Area _____

Avg. Clump Diameter _____ or Avg. Stems/Clump _____

Phenology: Vegetative _____ (%) Flowering _____ (%)

Fruiting _____ (%) Senescent _____ (%)

Elev. _____ (ft.) Aspect _____ (degrees) Slope _____ (%)

Landform _____

Habitat _____

Microtopography _____ (concave, convex, planer, or undulating)

Soil/Substrate _____

Plant Association _____

Associated Species: _____

Moss/Lichen Layer _____ Cover* _____

Herb Layer _____

Cover* _____

Low Shrub Layer _____

Cover* _____

High Shrub Layer _____

Cover* _____

Tree Layer _____

Canopy Cover _____ (%)

Remarks/Management Recommendations _____

* Cover classes: none, open, light, moderate, dense, very dense.

*** ATTACH 1:24,000 (or larger) MAP TO BACK ***