Common Plants of the Upper Klamath Basin

Technical Layout & Design .....Michael Calonje

Editor.....Sarah Malaby

Plant Descriptions & Text.....Molly Juillerat,
Ron Larson, Sarah Malaby, Jeanne Skalka.

Photography .....Michael Calonje, Ron Larson,
Sarah Malaby, Terry Spivey.

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INTRODUCTION

Although the Upper Klamath Basin is widely known for bird watching, the diversity of plants that occurs here is often overlooked. This field guide describes many of the commonly encountered vascular plants found in the Upper Klamath Basin, and includes some of the more localized species as well. The focus is on native species, but some introduced plants are included. A short section on lichens, bryophytes, and blue-green algae is intended to be an introduction to these types of species. Information contained in *Noxious Weeds of Klamath County*, and *Special Status Plants of Klamath County* is not repeated here. Those publications and other useful references are listed in Appendix B. Also listed are suggested locations for wildflower viewing (Appendix A). Vascular plant nomenclature in this book predominately follows *The Jepson Manual, Higher Plants of California*. Common names are taken from local usage or the USDA PLANTS database. Plant edibility and uses are mentioned in some of the "notes" sections of the species descriptions. Readers should always be certain of the identification and the proper uses of plants before consuming them.

OVERVIEW

The 7,230 square mile Upper Klamath Basin is located in Southern Oregon and Northern California and consists of watersheds that flow into Upper Klamath Lake and the Klamath River above Copco Lake. This includes the Lost, Sprague, and Williamson Rivers, as well as several smaller streams that flow off the east side of the Cascades. The basin extends from the crest of the Cascade Mountains on the west to the Basin and Range physiographic province on the east.

The climate is generally characterized by cold, snowy winters, hot, dry summers, and relatively short growing seasons. Precipitation varies due to the rain shadow effect of the Cascades and elevation differences. Elevation ranges from 2,607 feet at Copco Reservoir to 9,495 feet on Mt. McLoughlin, with most areas between 4,000-6,000 feet. Annual precipitation is greatest at Crater Lake National Park, 66 inches, compared to an average of 13.7 inches in Klamath Falls and only 10.9 inches in Tulelake.

Soils are primarily derived from weathered volcanic material or lake sediments. Many of the low-lying areas were once part of Lake Modoc, a 1,100 square mile lake that formed during the last ice age. As the climate warmed and dried, Lake Modoc receded. A 375,000-acre complex of shallow lakes, marshes, wet meadows, and seasonally flooded basins was present when European settlers arrived. Many of the wetlands in the basin have been drained for

agriculture; however, Upper Klamath Lake remains the largest lake in Oregon, and marsh, meadow, and forested riparian habitats are still present.

The northern third of the basin has been overlain with recent pumice and ash deposits from Mt. Mazama, which erupted roughly 7,700 years ago, creating Crater Lake. Soils derived from deep layers of pumice have low heat retention, and are well drained and nutrient poor. These characteristics create challenging growing conditions for plants.

HABITATS

The variation in climate, topography, and soils creates an abundance of habitats for plants and contributes to the diversity of the area. Within the main habitat types, microsites, such as rock outcrops, mudflats, springs, and seeps are important for some species. Processes such as fire, succession in the absence of fire, and human activities have affected plant species composition in the basin over time.

Riparian habitats associated with streams, floodplains, basins, and lake margins are some of the most botanically diverse areas. Lodgepole pine, white fir, or Engelmann spruce are the dominant conifers in forested riparian areas. Hardwoods like aspen and black cottonwood may also be present. In open meadows and wetlands, tufted hairgrass and a wide variety of wildflowers, other grasses, sedges, and rushes can be found. Willows, bog birch, and bog blueberry may occur on hummocks and around wetland edges. In the shallow water around Upper Klamath Lake, dense stands of tule bulrushes and cattails form marsh habitat. Wokas may be found floating on open water within the marsh.

Woodlands and shrublands occupy dry, low elevation sites, and are most abundant in the southeast part of the basin. Rabbitbrush, big sagebrush, and bunchgrasses commonly occur. An introduced annual, cheatgrass, has become abundant in many of these dry habitats, displacing native wildflowers and grasses. Western juniper may be abundant, scattered, or absent on drier sites. Juniper is a highly competitive water user that has increased and spread during the past century as a result of fire suppression. Klamath plum and mountain mahogany often grow on dry, rocky ridges with juniper. Scablands occur where rocky, shallow soils overlay bedrock. Scablands appear barren in the summer, but early spring flowering can be quite spectacular. Low sagebrush, daggerpod, frasera, biscuitroots, and Sandberg bluegrass are often present. Less common community types include Oregon white oak and black oak woodlands along the Klamath River, and greasewood - saltgrass shrublands on alkaline flats south of Klamath Falls.

Ponderosa pine forest occurs on warm, dry montane slopes and is the dominant forest type in the basin. Historically, frequent low intensity fires created open stands with large diameter trees, highly valued for timber. In the absence of fire, stands become dense and brushy, decreasing the diversity of plant species. Bitterbrush, sagebrush, bunchgrasses, and a variety of wildflowers occur in this forest type.

Lodgepole pine forest is typically found in cold or wet areas. A prolific seeder, lodgepole pine also forms seral stands following disturbance in other forest types. Lodgepole pine forest is most abundant in the north, where it tolerates the cold conditions on the flats and basins of the pumice zone. Bitterbrush, goldenbush, and western needlegrass often occur in dry lodgepole pine forests.

Mixed conifer forest occurs on moister sites than pure ponderosa pine forest. Ponderosa pine, sugar pine, western white pine, incense cedar, and Douglas-fir may be present as seral species, which establish after a canopy opening event like wildfire. White fir and Shasta red fir are shade-tolerant species in these forest types, meaning they can regenerate under an existing canopy. Lack of fire allows increased growth of fir in the understory of mixed conifer stands, increasing tree density and making them less diverse and more susceptible to mortality from insects, disease, and stand-replacing fire. A variety of shrubs and wildflowers occur in mixed conifer stands, including chinquapin, boxwood, prince's pine, and twinflower.

Subalpine forest grows at high elevations up to timberline. Mountain hemlock, Shasta red fir, whitebark pine, or lodgepole pine dominate this forest type. Many of these slow-growing forests are located in wilderness or Crater Lake National Park, where they remain as unlogged ancient stands. On rocky or exposed sites, trees may be sparse and stunted, deformed by harsh conditions. Associated species include pinemat manzanita, grouse huckleberry, lupine, and long-stolon sedge.

True alpine habitats are rare in the Upper Klamath Basin, but subalpine meadows and talus slopes can be found in Crater Lake National Park and on the higher peaks. These habitats are good areas for wildflower viewing later in the summer, after blooming has finished at the lower elevations. Common talus species include dwarf hulsea, western pasque flower, Davidson's penstemon, and partridge foot.

PLANT EXPLORATION IN THE UPPER KLAMATH BASIN

Because of its relative remoteness, the Upper Klamath Basin was not frequently visited by early botanists. Nevertheless, several government expeditions passed through the region collecting plants and making observations on the vegetation. The first of these was the Wilkes Inland Expedition that visited the basin in 1841. Soon afterwards, the famous explorer John Frémont visited the area in 1843-1844 and again in 1845-1846. Next was the Williamson Survey which searched for a railroad route between Sacramento and the Columbia River. Dr. John Newberry was the naturalist on the Williamson Survey and he prepared a botanical report. Several of our plants were named after him, including Newberry's knotweed, a common species at Crater Lake National Park. Frederick Coville visited Fort Klamath in 1896 and studied local plant uses. He also made a week-long visit to Crater Lake with a group of naturalists, including local botanist Elmer Applegate, and together they discovered the rare pumice grapefern at Llao Rock, a species that occurs only in south-central Oregon. Applegate became a naturalist at Crater Lake in the 1930's. He named or discovered a number of new plants, including the Klamath fawn lily. He also found Applegate's milkvetch, which only occurs around Klamath Falls, and is now listed as endangered because so few populations exist. He also found the colorful Applegate's paintbrush on Mt. Scott, the species shown on the cover of this book. Applegate published several papers on the local flora, including plants from Crater Lake National Park and Lava Beds National Monument. Work at Crater Lake has continued since Applegate, and over 1,000 plant species have been identified in the Park. A complete list can be found at http://www.nps.gov/crla/plantlis.htm.

Plant collection continues throughout the Upper Klamath Basin, mostly by university and agency botanists, but amateur naturalists are also helping to document the rich flora found here. Oregon State University is engaged in the "Oregon Flora Project" (http://www.oregonflora.org/), which will create a new flora for the state, and make available distribution maps, plant photos, and other information.

The Klamath Basin Chapter of the Native Plant Society of Oregon (NPSO) leads occasional field trips to local areas of botanical interest. For information on the Klamath Basin Chapter of the NPSO, or activities throughout the state, see the website http://www.npsoregon.org.

GROWING NATIVE PLANTS

As you look through this book you will probably see many plants that would be a welcome addition to any yard. It is likely that you already have na-

tive plants in your garden and did not realize it. Some common ornamentals native to the West include: blue flax, California poppy, western columbine, Oregon grape, bearberry, red-osier dogwood, and ponderosa pine.

If you have not tried growing native species, you might think they would be difficult to grow; however, just like any other plants, their requirements vary. Like all gardening, it is a matter of matching up the plant with the right soil, water, and light conditions. A big advantage of growing native plants is they are adapted to our local climate, and many have low water needs. There are several excellent books that provide advice on both growing and propagating native species. One such book is *Gardening with Native Plants* by A.R. Kruckeberg.

Perhaps the most difficult part of native plant gardening is finding them. Local nurseries usually carry only a few native species. However, there are specialized nurseries that carry a broad array of native plants and seeds. The best way to locate such sources is by doing a little searching on the Internet.

Many annual and perennial species can easily be grown from seed collected in the summer and sown in pots outdoors so the seed can "stratify" over winter and break dormancy. Several shrubs can also be grown from seeds or from cuttings. Because many of our species have deep taproots and grow in rocky soils, transplanting is often difficult. Prior to collecting native plant materials, please obtain permission from the landowner. Permits are usually required for collecting on public lands.

SPECIES GROUPS

The species descriptions in this guide are arranged in 5 major groups: Ferns and Horsetails; Conifers; Flowers, Hardwood Trees, and Shrubs; Grasses and Grass-like Plants; and Lichens, Bryophytes, and Blue-green Algae. Within the major groups, species are organized by family and genus. Plant species are named by the genus and specific epithet (e.g., *Pinus ponderosa*). Genera are compiled into families based on common characteristics and evolutionary lineages (e.g., the pine family includes pines, spruces, firs, hemlocks, and Douglas-fir). Brief descriptions of the major species groups and flowering plant families are included below. See the Glossary for terminology.

FERNS AND HORSETAILS

Ferns and horsetails are primitive plants that reproduce by spores instead of seeds. Because tiny spores can be transported long distances by air currents, many of our species have broad distribution, occurring at northern latitudes

around the world. Ferns have a horizontal underground stem or rhizome, with above ground leaves called fronds. Fronds are generally compound, divided 1-4 times into smaller leaflets (referred to as 1-4 times pinnate). Tiny spore cases are clustered into structures called sori, found on the underside of the fronds. The ferns are grouped into several families based in part on the arrangement and coverings of the sori.

The horsetail family is characterized by having hollow jointed stems and small scale-like leaves that form rings at the joints. The stems contain silica, giving them a rough feel and the common name "scouring rush." Spores are produced in terminal structures called cones.

CONIFERS

Most trees in the Upper Klamath Basin are evergreen conifers in the pine, cypress, and yew families. Conifers, also referred to as softwoods, are distinguished from flowering plants, such as the broad-leaved or hardwood trees, because their seeds lie "naked" on the scales of cones, instead of inside a fruit. The pine family includes the pines, firs, spruces, and hemlocks - species with

1) sugar pine
2) western white pine
3) ponderosa pine
4) lodgepole pine
5) whitebark pine
6) Douglas-fir
7) Engelmann spruce
8) mountain hemlock
9) subalpine fir
10) white fir
11) Shasta red fir
12) incense cedar
13) western juniper

needle-like leaves. Within the pine family, pine trees are unique in having needles grouped in bundles of 2, 3, or 5, with a papery sheath at the base. The cypress family has scale or awl-like leaves and includes the junipers and false cedars. The yew family has needle-like leaves, but instead of typical cones, produces single seeds on small scales that become fleshy and surround the seed with a structure called an "aril."

Although conifers can be identified using leaf and bark characteristics, cones are very helpful when available. For comparison, cones are shown above. Fir cones disintegrate into separate scales before falling, and entire cones are rarely found on the ground. The individual scales can be useful in identification of the firs. Juniper cones have small fleshy scales and look like "berries."

FLOWERING PLANTS: FLOWERS, HARDWOOD TREES, AND SHRUBS

The flowering plants include what most people typically think of as flowers, along with hardwood trees, shrubs, grasses, and grass-like plants. Although they may have tiny flowers that lack petals, all of these plants produce seeds inside an ovary, which develops into a fruit. There is a huge diversity of flowering plants. Learning family characteristics can be helpful in identifying species. Some families have world-wide distribution and only the traits of genera found in this area are described. Well-known ornamentals or crops that also occur in the family may be mentioned.

Aceraceae (Maple Family)

Tall shrubs or trees with opposite, palmately lobed or compound leaves in the genus *Acer* (maple). Flowers are bisexual or unisexual, with 0 or 4-5 petals, 4-5 sepals, 8 stamens, and a superior ovary with 2 stigmas. Flowers are tiny in droopy clusters and usually appear before the leaves. Fruits are paired achenes with large wings like a helicopter blade (samaras). Includes maple and boxelder.

Alismataceae (Water Plantain Family)

Perennial wetland plants with emergent or floating leaves. Leaves have parallel veins. Flowers have 3 green sepals, 3 (often showy) white petals, 6 or more stamens, and many pistils. The pistils develop into multiple achenes, often in head-like clusters. Includes water plantain and arrowhead.

Anacardiaceae (Sumac Family)

Shrubs or vines with simple to compound alternate leaves, and milky or resinous sap. Leaves are often brightly colored (red) in the fall. Flowers are small, in racemes or panicles with 5 sepals, 5 petals, and 5 or 10 stamens. Male and

female flowers are generally separate. Fruits are drupes. Includes poison oak and skunkbush. Trees like pistachio, cashew, and mango are also in this family.

Apiaceae (Parsley Family)
Annuals, biennials, or perennials, often aromatic and hollow-stemmed. Leaves are usually compound and divided into small segments. Flowers are small and typically have 5 white or yellow petals arranged in umbrella-like umbels. The ovary is inferior and has a rounded platform on top and 2 styles. Fruits are small, dry "schizocarps," which split into 2 halves. Because flowers are so similar, fruits are often important for identification. Many species have taproots or tubers. Includes edible species such as carrot, celery, fennel, dill, biscuitroot, and yampah, as well as the toxic poison hemlock and water hemlock.

Apocynaceae (Dogbane Family)
Perennials with milky sap in the genus *Apocynum*. Leaves are opposite and entire. Flowers are bell shaped or tubular, with 5 fused petals and sepals, 5 stamens, and 2 superior ovaries united above by a short, broad style. Anther tips are fused around the stigma. Fruits are 2 long, narrow follicles. Includes dogbane. The ornamentals vinca and oleander are also in this family.

Aristolochiaceae (Pipevine Family)
Perennial from a rhizome with a ginger smell, in the genus *Asarum* (wild ginger). Leaves are heart shaped. Flowers are bowl shaped with 3 long-pointed fused sepals, no petals, and 12 stamens. The ovary is inferior and the style 1. Fruits are capsules.

Asclepiadaceae (Milkweed Family)
Rhizomatous perennials with milky sap in the genus *Asclepias* (milkweed). Leaves are opposite or whorled. Flowers have 5 fused petals and 5 sepals bent backward, 5 stamens, and 1 pistil with a superior ovary and 2 styles. The stamen filaments are fused and have 5 hood-like appendages that resemble petals. Flowers are in umbels. Fruits are follicles with hairy-tufted seeds.

Asteraceae (Sunflower Family)
A very large family (21,000 species world-wide) consisting of shrubs, perennials, biennials, and annuals in our area. Leaves are variable. Flowers are in heads with few to many flowers. The heads are often mistaken for single flowers. A series of bracts called phyllaries surround the flower head and form an involucre beneath it. Individual flowers are small and have 4-5 united petals, 4-5 stamens fused at the base, and an inferior ovary with 2 stigmas. The calyx is replaced by awns, bristles, or scales that remain at the top of the achene fruits. Flower heads are of 3 types: ligulate, comprised of only strap-

shaped ligulate flowers; discoid, comprised of only radially symmetrical disk flowers; and radiate, comprised of disk flowers surrounded by petal-like ray flowers. Includes asters, daisies, thistles, dandelion, sagebrush, and rabbitbrush.

Berberidaceae (Barberry Family)
Shrubs or perennials with alternate leaves that are deciduous, or leathery and evergreen. Flowers are variable, with the corolla either absent, or in multiple whorls of 3. Stamens are usually 6, 9, or 12. The stamens have flaps on the side that open to shed pollen. Fruits are berries, achenes, or capsules. Includes Oregon grape, vanilla leaf, and inside-out flower.

Betulaceae (Birch Family)
Tall shrubs or small trees with simple, alternate, deciduous, coarsely-toothed leaves, found in moist to wet habitats. Male and female flowers are separate on the same plant. Male flowers are in long droopy catkins. Female flowers are in shorter catkins or clusters. Fruits can be nuts or tiny winged nutlets. Includes alder, birch, and hazelnut. In comparison, trees and shrubs in the Salicaceae (willow family) have separate male and female plants and produce capsules with small hairy-tufted seeds.

Boraginaceae (Borage Family)
Annuals or perennials with bristly hairs. Leaves are alternate, or opposite at the base, and usually entire. Flowers have 5 petals joined in a tube and are often trumpet shaped. Appendages on the inside of the petals around the tube give the appearance of an "eye" in some species. Flowers are arranged in coiled inflorescences that open as flowers mature. The ovary is superior and 1-4 hard nutlet fruits are produced per flower. Nutlets are important for identification in some genera. Includes bluebells, stickseeds, and popcorn flowers.

Brassicaceae (Mustard Family)
Annuals, biennials, and perennials with leaves alternate and entire or lobed. Flowers have 4 separate petals and sepals, 6 stamens, and a superior ovary. In most species, 4 of the stamens are longer than the other 2. Fruits are dry pod-like capsules, which can be long and narrow (siliques), or short and rounded (silicles). Most fruits have 2 chambers separated by a papery membrane. Because many mustards have similar flowers, mature fruits are important for identification. A number of native and non-native mustard species occur in our area, including rockcress, alyssum, watercress, and several crop species (radishes, broccoli, turnips, etc.). In comparison, the Onagraceae (evening primrose family) and Rubiaceae (madder family) also have flowers with 4 petals, but the ovaries are inferior.

Campanulaceae (Bellflower Family)
Annuals or perennials with simple alternate leaves. Flowers have 5 sepals, 5 fused petals, 5 stamens, and an inferior ovary. Flowers are either bell shaped, or bilateral and two-lipped, with the stamens fused together. Fruits are capsules. Includes downingia, campanula, and lobelia.

Caprifoliaceae (Honeysuckle Family)
Vines or shrubs with opposite leaves. Flowers have 4-5 fused petals and can be flat and saucer-shaped, tubular, or two-lipped. There are 5 stamens and the ovary is inferior. Fruits are capsules or berries. Includes honeysuckle, snowberry, and elderberry.

Caryophyllaceae (Pink Family)
Annuals or perennials with simple, opposite, sessile leaves and stems with swollen nodes. Petals are 5 and often notched or divided into 2 lobes. Sepals are 5 and either separate or united in a tube. The ovary is superior and fruits are dry capsules. Includes starwort, chickweed, and ornamentals such as carnation, dianthus, campion, and baby's breath.

Celastraceae (Staff Tree Family)
Only one species occurs in our area, see *Paxistima myrsinites*.

Chenopodiaceae (Goosefoot Family)
Annuals, perennials, and shrubs adapted to saline soils and desert conditions. Stems and leaves are sometimes fleshy, and many species have white dandruff-like scales on the surface, referred to as mealy, or scurfy. Flowers are small, greenish, and inconspicuous with 2-5 sepals, but no petals. Fruits are small and single-seeded. Includes greasewood, Russian thistle, crops like spinach and beets, and non-native weeds like kochia and lambsquarters.

Cornaceae (Dogwood Family)
Shrubs, small trees, or subshrubs in the genus *Cornus*, with simple opposite or whorled leaves and curved parallel veins. Flowers are 4-petaled, small, and white to greenish, with an inferior ovary and 4 stamens. Large white bracts give the appearance of showy flowers in some species. Fruits are fleshy drupes or berries. Includes dogwood and bunchberry.

Crassulaceae (Stonecrop Family)
Perennials with simple, fleshy, alternate leaves in the genus *Sedum*, usually found in rocky sites. Flowers have 4-5 free sepals and 4-5 free or partially fused petals. Stamens are twice as many as the petals. The 4-5 pistils are separate or slightly attached and have superior ovaries. Fruits are follicles. The succulent houseplant kalanchoe is also in this family.

Droseraceae (Sundew Family)
Small carnivorous annuals or perennials in the genus *Drosera* that grow in wetlands. Leaves are in a rosette with long petioles and large glands. The sticky leaves trap and digest insects. Flowers have 5 petals, 5 sepals, 5 stamens, and a single pistil, with a superior ovary and three 2-lobed styles. Fruits are capsules. Venus flytrap is also in this family.

Ericaceae (Heath Family)
Shrubs and perennials with simple, alternate, or sometimes opposite or whorled leaves. Many species are evergreen with leathery leaves. Flowers typically have 4-5 sepals and 4-5 petals, which are generally either free in a cup shape, or fused in an urn shape. Flowers have 8-10 stamens and 1 pistil with 1 style. The ovary is superior or inferior. The fruit is a capsule, drupe, or berry. Many species are adapted to shady forest conditions, and some lack chlorophyll, getting their nutrition from other plants via mycorrhizal fungi. Includes huckleberries, manzanita, prince's pine, wintergreen, and pinedrops. The tree madrone is also in this family.

Euphorbiaceae (Spurge Family)
Annuals or perennials with milky juice and alternate or opposite simple leaves. Male and female flowers are separate on the same plant, and are tiny and lack petals. Male and female flowers are grouped in separate clusters in *Eremocarpus*. In *Euphorbia*, male flowers surround a single stalked female flower and both are enclosed in a cup-shaped corolla-like involucre with 4 crescent-shaped glands. Fruits are capsules. Includes spurge and turkey mullein. Poinsettia and castor bean are also in this family.

Fabaceae (Pea Family)
Annuals, biennials, perennials, and trees with alternate and usually compound leaves, often with stipules. Flowers are pea-like and bilateral with 5 partially fused sepals and petals. The upper petal, referred to as the "banner," is the largest, two smaller "wing" petals are on either side of the banner, and the two lower petals are fused to form a "keel," which encloses the 10 stamens and single pistil. Stamens are all united, or 9 are united with 1 free. The ovary is superior and fruits are variously shaped legumes (pea pods). Includes, lupine, milkvetch, clover, locust tree, and several crops (peas, beans, alfalfa, etc.).

Fagaceae (Oak Family)
Shrubs or trees with simple alternate leaves, deciduous or evergreen. Male and female flowers are separate on the same plant, with male flowers in catkins and female flowers surrounded by a cup-like involucre. Fruits are either acorns or bur-like. Includes the oaks and chinquapin, as well as tanoaks, chestnuts, and beeches.

Fumariaceae (Fumitory Family)
Perennials with compound leaves and showy bilateral flowers in the genus *Dicentra*. Flowers have 2 sepals that fall off early and 4 petals. One or both of the outer 2 petals have a sac or spur at the base; the inner two petals are slender and meet at the top. Stamens are 6, usually fused into 2 groups. Fruits are capsules. Includes bleeding hearts and steer's head.

Gentianaceae (Gentian Family)
Annuals or perennials with simple opposite or whorled leaves. Flowers have 4-5 fused sepals, 4-5 fused petals, 4-5 stamens, a single pistil, and a superior ovary. Flowers are bowl, vase, or funnel shaped, and usually showy. Fruits are capsules. Includes gentian and frasera.

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Geraniaceae (Geranium Family)
Perennials with palmately lobed, or sometimes pinnately compound, alternate leaves. Flowers have 5 separate sepals and petals, and 5 or 10 stamens. The ovary is superior and 5 lobed with 5 styles. The fruit is a capsule with 5 chambers that split apart at the base, each with a long beak-like style. Includes geranium and stork's bill.

Grossulariaceae (Gooseberry or Currant Family)
Shrubs in the genus *Ribes*, characterized by simple alternate leaves with 3-5 palmate lobes. Stems have 0-9 spines per node. Leaves, twigs, and flowers are often hairy and glandular. Flowers have a tubular or short funnel shape and an inferior ovary. Sepals, petals, and stamens are 5, styles 2. The sepals are persistent and somewhat showy, while the petals are small and inconspicuous. Fruits are edible, but not always tasty, berries.

Hydrangeaceae (Hydrangea Family)
Only one species occurs in our area, see *Philadelphus lewisii*.

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Hydrophyllaceae (Waterleaf Family)
Annuals or perennials, generally hairy and taprooted. Leaves are simple to compound, alternate or opposite. Flowers are in coiled cymes, or sometimes solitary. Flowers are bell shaped with 5 sepals and 5 fused petals. Stamens are usually 5 and extend beyond the corolla. The ovary is superior and styles are 1 or 2 with rounded stigmas. Fruits are capsules. Includes phacelia, waterleaf, and hesperochiron.

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Iridaceae (Iris Family)
Perennials growing from bulbs, corms, or rhizomes. Leaves are usually basal, sword shaped, flat, and grass-like. Leaves are 2-ranked, oriented edgewise to the stem, and overlap at their bases. Flowers are usually showy and radially

symmetrical, with 3 petals, 3 petal-like sepals, and 3 stamens, attached above the inferior ovary. The fruit is a capsule. Includes iris and blue-eyed grass.

Lamiaceae (Mint Family)
Annuals, perennials, and shrubs (few in our area), often aromatic, with simple opposite leaves and square stems. Flowers are often showy, in dense head or spike-like clusters, or in whorls in the leaf axils. Flowers are tubular and range from nearly radial to more often bilateral and two-lipped. The upper lip is 1or 2 lobed, flattened or forming a hood. The lower lip is 3 lobed. Stamens are 2-4. The ovary is superior and 4 lobed, with a single style attached in the center of the lobes at the base. The 4 lobes become hard nutlet fruits. Species not always thought of as mints include self-heal, hedge-nettle, salvia, and spices like basil, oregano, thyme, and marjoram. This family is distinguished from the Scrophulariaceae (figwort family) by the mint smell (when present), square stem, and nutlet fruits.

Lentibulariaceae (Bladderwort Family)
Annual or perennial aquatic plants in the genus *Utricularia*, with small whitish bladders that trap and digest aquatic organisms. Numerous thread-like branches resemble leaves; true leaves are absent. Flowers are bilateral, two-lipped with a spur at the base, and usually yellow. Fruits are capsules.

Linaceae (Flax Family)
Only one species occurs in our area, see *Linum lewisii*.

Liliaceae (Lily Family)
Perennials growing from bulbs, corms, or rhizomes. Leaves can be grass-like, or broader with parallel veins. Leaves are mostly alternate or basal, sometimes whorled. Flowers are usually showy, and have 3 petals and 3 sepals. Petals and sepals are often nearly alike and referred to as "tepals." Stamens are 6, or 3 with 3 sterile staminodes. There is 1 pistil with a superior ovary and 3 stigmas. Fruits are 3-chambered capsules or berries. Includes onions, camas, death camas, and solomon's seal. In comparison, blue-eyed grass in the Iridaceae (iris family) also has 6 tepals, but the ovary is inferior. Species in the Alismataceae (water plantain family) have 3 petals, but pistils are numerous.

Loasaceae (Stickleaf Family)
Annuals, biennials, or perennials with rough barbed hairs in the genus *Mentzelia*. The stem is often whitish. Leaves are simple (sometimes deeply lobed) and alternate or opposite. Flowers have 5 free petals, 5 sepals, numerous stamens, and 1 style. The ovary is inferior. Fruits are 1-chambered capsules with many seeds. Includes stickleaf and blazing star.

Malvaceae (Mallow Family)
Annuals or perennials with star-like or branched hairs. Leaves are alternate, simple, and typically palmately veined or lobed. Flowers occur singly, in racemes, or in branched clusters. Flowers have 5 free petals, 5 sepals, and numerous stamens fused at the base into a column. There is 1 pistil with a superior ovary and 5 or 10-15 stigmas. Fruits are capsules with 5 or 10-15 chambers. Includes checker mallow and common mallow. Hibiscus and hollyhock are also in this family.

Nymphaceae (Water Lily Family)
Only one species occurs in our area, see *Nuphar luteum ssp. polysepalum*.

Onagraceae (Evening Primrose Family)
Annuals or perennials with simple alternate or opposite leaves. The flowers are small or showy, and grow singly, or in racemes, spikes, or branched clusters. The flowers have 4 sepals, 4 free petals, and 4-8 stamens, attached at the top of a long, slender, inferior ovary. The style is 1 and the stigma is either 4 lobed or globular. The fruit is usually a slender 4-chambered capsule. Includes fireweed, clarkia, sun cup, and willowherb.

Orchidaceae (Orchid Family)
Perennials with simple, entire, alternate, parallel-veined leaves. Flowers are bilateral and generally showy, and can be single, or in racemes or spikes. There are 3 sepals that resemble petals, and 3 petals. Sepals are more or less equal. Two petals are lateral, and the third petal forms a lower lip, often with a backward-pointing spur or sac. The 1 or 2 stamens are fused to the style and stigma, forming a column. All flower parts are attached above the inferior ovary. The fruit is a 3-chambered capsule with numerous (estimated at 1 million for some species) dust-like seeds. Includes coralroot, rattlesnake plantain, lady slipper, and bog orchid. This is a large family (18,000 species world-wide) with most species in the tropics.

Paeoniaceae (Peony Family)
Only one species occurs in our area, see *Paeonia brownii*.

Polemoniaceae (Phlox Family)
An annual, perennial, or shrub. Leaves are simple or compound, alternate or opposite. Flowers are solitary, or in clusters, with 5 fused sepals and petals, and 5 stamens alternating with the petals. Flowers are either trumpet shaped, bell shaped, or short funnel shaped with lobes spreading like a pinwheel. The pistil is 1, with a superior ovary and 3-parted stigma. Fruits are 3-chambered capsules. Includes collomia, gilia, phlox, and Jacob's ladder.

Polygonaceae (Knotweed Family)
Annuals, perennials, or shrubs with simple alternate, opposite, or whorled leaves. Stems often have swollen "knots" at the nodes, and papery sheaths at the base of the leaves (absent in the buckwheats). Flowers are small, in panicles, or head-like clusters with an involucre below. Flowers have 3-6 petal-like segments fused at the base, 3-9 stamens, and 1 pistil with a superior ovary and 2-3 styles. Fruits are smooth lens-shaped, or 3-sided achenes. Includes buckwheat, dock, American bistort, smartweed, and knotweed. Rhubarb is also in this family.

Portulacaceae (Purslane Family)
Annuals or perennials with simple, alternate or opposite, fleshy leaves. Flowers have 2 sepals, 3-18 petals, 1-many stamens, and 1 pistil with a superior ovary and 2-8 styles. Fruits are capsules with black shiny seeds. Includes miner's lettuce, bitterroot, pussypaws, and the common garden weed purslane.

Primulaceae (Primrose Family)
Annuals or perennials with leaves alternate, basal, or whorled. Flower parts are in 4-5's or sometimes more. Petals are spreading to reflexed. Stamens are opposite the petals. There is 1 pistil with a superior ovary, single style, and a head-like stigma. Fruits are capsules. Includes shooting star, starflower, and the noxious weed purple loosestrife.

Ranunculaceae (Buttercup Family)
Annuals or perennials, sometimes aquatic. Leaves are alternate, simple or compound, and often palmately lobed. Flowers are radially symmetrical, or bilateral with spurs. Flowers have 5 sepals, which are often petal-like, 0 or 5-10 petals, many stamens, and 1 to many pistils with superior ovaries. Flowers are solitary, in racemes, or in panicles. Fruits are achenes, follicles, or berries. Along with buttercups, includes larkspur, anemone, columbine, and monkshood. The vine clematis is also in this family.

Rhamnaceae (Buckthorn Family)
Trees or shrubs with simple alternate or opposite leaves, often with stipules and sometimes evergreen. Flowers are small, with 0 or 4-5 petals (often hooded), 4-5 sepals, 4-5 stamens, and a single pistil with a superior ovary and 3 stigmas. Flowers are inconspicuous, or in showy, strongly-scented clusters. Fruits are berry-like or capsules. Includes cascara, snowbrush, and mahala mat.

Rosaceae (Rose Family)
Trees, shrubs, perennials, and annuals with alternate compound or simple leaves, often with stipules on the petiole. Flowers have 5 free petals, 5 sepals,

5-many stamens, and 1-many pistils. Flowers are saucer, cup, or sometimes funnel shaped. Flowers grow individually or in dense clusters, and are often showy. The ovary is superior or inferior. Fruits are achenes, drupes, raspberry-like, or pomes (apples). Includes mountain mahagony, chokecherry, strawberry, serviceberry, and most of the domesticated fruit trees (apple, pear, plum, cherry, etc.).

Rubiaceae (Madder Family)
Annuals or perennials, often trailing, with square stems and simple sessile leaves, opposite or in whorls. Flowers are small, with 4 or 5 fused petals, 4 stamens, and a 2-lobed inferior ovary with 2 styles fused at the base. The ovary develops into paired nutlets. Includes bedstraw and kellogia. Coffee trees are also in this family.

Salicaceae (Willow Family)
Small trees and shrubs with simple alternate leaves, generally found in riparian areas. Leaves often have non-persistent stipules. Plants are either male or female. Both male and female flowers are tiny, lack petals, and are in catkins. Fruits are small capsules. Seeds have tufts of hair and are wind dispersed. Includes willow, cottonwood, and aspen.

Saxifragaceae (Saxifrage Family)
Perennials with simple (sometimes deeply lobed) alternate leaves, often rounded in outline and with palmate veins. Leaves are mostly basal or on the lower half of the stem. Flowers have five separate petals, five sepals, and 5 or 10 stamens. Pistils are 1 or 2, and styles are generally 2 and beak-like. The ovary is superior or inferior. Petals are often lobed, fringed, thread-like, or divided into narrow segments. Flowers are generally small, in clusters at the top of tall, leafless stalks. Fruits are capsules or follicles. Includes woodland star, foamflower, and alumroot. The Roseaceae (rose family) is similar, but generally has numerous stamens, entire petals, and stipules on the leaves.

Scrophulariaceae (Figwort Family)
Annuals, biennials, or perennials, generally with simple, opposite or alternate leaves. Flowers are often showy, occurring individually, or in dense clusters with colored bracts. Flowers range from nearly radial to bilateral, tubular, and two-lipped. In bilateral flowers, the upper lip is 2 lobed or forms a beak, and the lower lip is 3 lobed. There are usually 4 stamens in two pairs, sometimes with a 5th sterile staminode. The ovary is superior and the fruits are capsules. Includes the monkeyflowers, penstemons, and paintbrushes.

Solanaceae (Nightshade Family)
Annuals, perennials, and vines with alternate, usually simple leaves. Flow-

ers have 5 fused petals, 5 sepals, 5 stamens, and a superior ovary with 1 style. Flowers are trumpet shaped, or star shaped, sometimes with the stamens extended like a beak. Fruits are berries or capsules. Includes nightshade, dwarf five-eyes, and coyote tobacco. Crops like tomatoes, potatoes, and peppers, and petunias are also in this family.

Sparganiaceae (Bur-reed Family)
Rhizomatous perennials of wet habitats in the genus *Sparganium*. Leaves are long, linear, and grass-like. Male and female flowers are in separate, ball-like heads. Flowers are numerous and tiny with 1-6 greenish perianth parts. Fruits are hard, beaked achenes.

Urticaceae (Nettle Family)
Only one species occurs in our area, see *Urtica dioica*.

Valerianaceae (Valerian Family)
Annuals or perennials with opposite simple or compound leaves. Flowers are small in dense head-like clusters. Flowers are bilateral, funnel shaped, and sometimes two-lipped, with 5 fused petals and usually a bump or small spur at the base. Stamens are 3 and extend beyond the petals. The ovary is inferior with a 2 or 3-lobed stigma. Fruits are achenes. Includes valerian and sea blush.

Violaceae (Violet Family)
Annuals or perennials in the genus *Viola*. Leaves are simple and alternate, with stipules at the base of the petiole. Flowers are usually single and brightly colored. Flowers are bilateral and have 5 petals, 5 sepals, and 5 stamens. The petals are unequal and the lower petal forms a spur. The ovary is superior with 1 style, and the fruit is a capsule.

FLOWERING PLANTS: GRASSES AND GRASS-LIKE PLANTS

Cyperaceae (Sedge Family)
Annuals or perennials often with rhizomes, typically found in wet habitats. Stems are solid and often triangular in cross-section. Leaves are grass-like or reduced to small scales, and 3-ranked around the stem. Flowers are tiny and reduced to 0-6 bristles, 3 stamens, and 2-3 stigmas. Flowers are arranged spirally on short or elongate spikes with a small bract below each flower. Each flower produces a single seed. *Carex* seeds are enclosed in a sac-like perigynium. This guide has only a sample of Cyperaceae species in the Upper Klamath Basin. More than fifty species occur here, and many are difficult to identify without magnification and a technical key. The sedges (*Carex*) are the most abundant and widespread genus; bulrushes and spikerushes are also in this family.

Juncaceae (Rush Family)
Annuals or perennials from rhizomes typically found in wet habitats. Stems are solid and round or sometimes flat. Leaves are round or flat and may have crosswalls (slide finger along blade to feel this). Leaves are basal or alternate, sometimes reduced to a small point. Flowers are tiny and have 6 green to brown or purplish-black tepals, 3 or 6 stamens, and 1 pistil with 3 stigmas. Flowers are single or grow in head-like clusters. Fruits are small capsules with 3 or many small seeds. This guide has only a sample of Juncaceae species in the Upper Klamath Basin. Roughly 20-30 species occur here. Rushes can be difficult to identify, and mature capsules and seeds are often needed. The rush family is distinguished from the other grass-like plants by having flowers with 6 tiny tepals and capsules with more than 1 seed. Includes rushes and woodrushes.

Poaceae (Grass Family)
Annuals or perennials with fibrous roots and sometimes rhizomes. Stems are usually round, hollow, and jointed. Leaves are long, narrow, and alternate on either side of the stem (2-ranked). Flowers are reduced to 3 stamens and 1 pistil with 2 styles, enclosed by an upper bract called the palea and a lower bract called the lemma. Flowers are in units of 1-few flowers called "spikelets" that have a pair of bracts (glumes) below. Spikelets are then further arranged in spikes or branched inflorescences. Fruits are single seeds enclosed by the palea and lemma. This guide has only a sample of grass species in the Upper Klamath Basin. More than 50 species occur here and some are difficult to identify without magnification and a technical key. In addition to native species, a number of grasses have been introduced. Grasses are differentiated from the sedges and rushes by the round hollow stems, 2-ranked leaves, and spikelet structure with 2 bracts beneath each flower.

Typhaceae (Cattail Family)
Terrestrial, emergent, or floating rhizomatous perennials with unbranched round stems in the genus *Typha*. Leaves are 2-ranked, long, and strap-like. Male and female flowers are separate and reduced with no perianth parts. Flowers are arranged in long cylindrical spikes, with male flowers above female.

LICHENS, BRYOPHYTES, AND BLUE-GREEN ALGAE

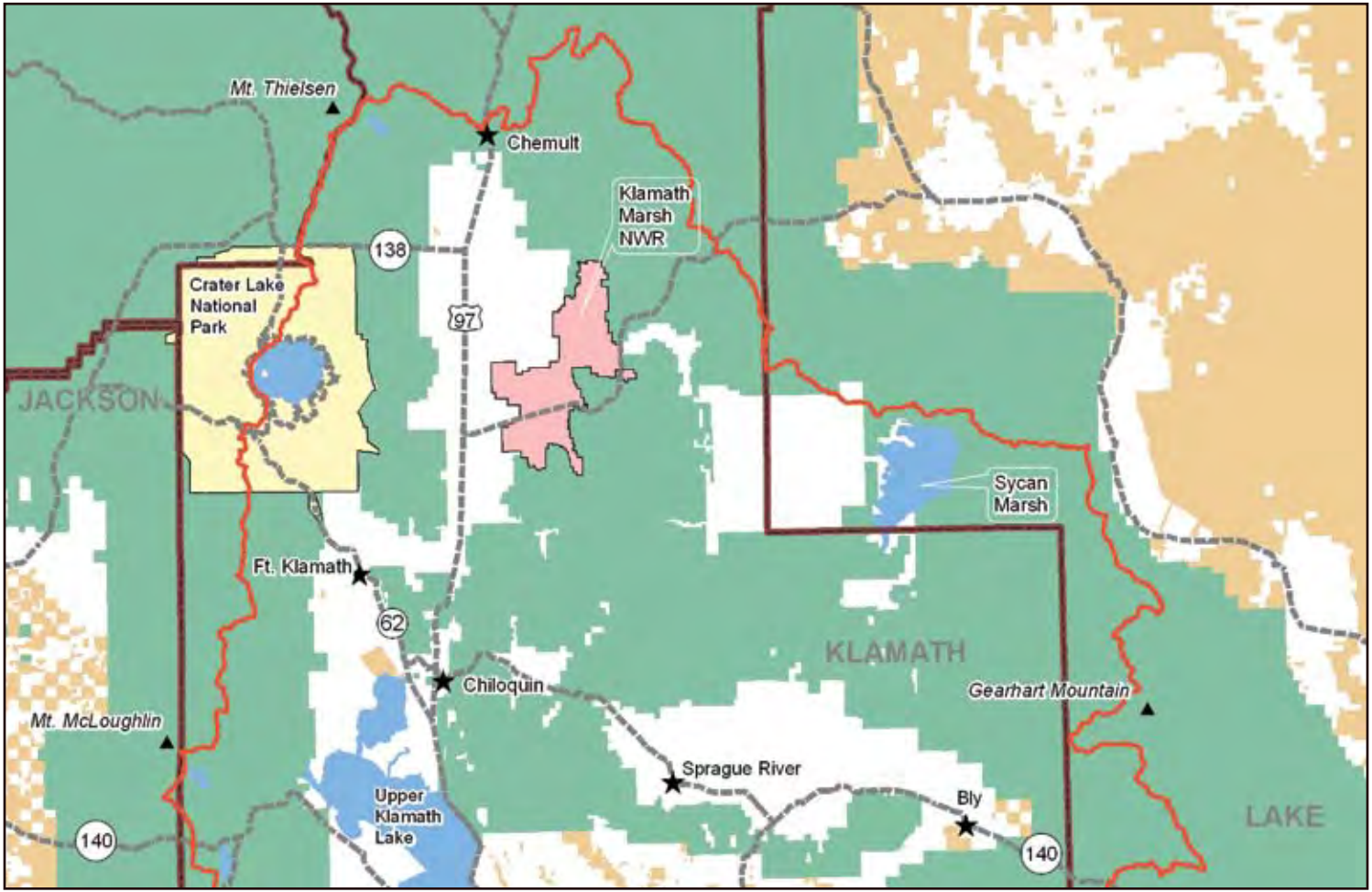
Lichens are fungi that have developed mutually beneficial relationships with species of algae or blue-green algae. The fungus provides structural support and absorbs moisture and nutrients from the environment, creating a suitable habitat for the algal cells to exist in. The algal cells photosynthesize and produce carbohydrates. Combined, the organisms look and function very

differently than if they were living apart, and can grow under conditions where neither would survive alone. Crustose lichens are found on rock or sometimes wood. They are often colorful and look like they are painted on, flat and tightly appressed to the substrate. Foliose lichens have leafy lobes and an upper and lower surface, generally with root-like structures beneath. Fruticose lichens are shrubby or hair-like with thin rounded branches. In addition to growth form, color, reproductive structures, and chemical tests are often used in lichen identification.

Bryophytes include the mosses and liverworts: small green plants that reproduce by spores and lack specialized vascular tissue for transporting food, minerals, and water. Mosses are upright or sprawling and have numerous tiny leaves spiraled around the stem. They typically grow in clumps or mats and are most abundant in wet habitats. Some mosses do grow on dry sites, however, shriveling up and becoming dormant during dry periods, then growing again after a rain. The spore-producing structure or "sporophyte" consists of a small capsule usually on a thin stalk above the leaves. The shape and structure of the leaves and leaf cells, and sporophyte characteristics are important in moss identification.

A few liverworts in our area have broad flat lobes, but most are leafy. Leafy liverworts look similar to the mosses, but have thin flattened stems and 3-ranked (a row on each side and a row on top), usually overlapping leaves. Unlike the mosses, they are generally restricted to moist or wet habitats. Liverworts produce sporophytes that are short-lived and often not seen. Vegetative reproductive structures called "gemmae" are more common. These look like eggs in a tiny bird's nest. Leaf shape and arrangement, and structures called "oil bodies" inside the leaf cells are important for identification.

Blue-green algae are actually cyanobacteria, small photosynthetic organisms more closely related to bacteria than to true algae. It is thought that the chloroplasts (structures where photosythensis takes place) in algae and other plants originated from cyanobacteria that took up residence inside plant cells. Cyanobacteria occur in almost every habitat, including oceans, fresh water, bare rock, and soil. They are the oldest known fossils (more than 3.5 billion years old) and are thought to have created the oxygen atmosphere we depend on today. Another important role is their ability to "fix" atmospheric nitrogen into a form plants can use. Cyanobacteria cells are quite small, but can grow in colonies large enough to see. Colonies can be in the form of filaments, sheets, or balls.


Mt. Thielsen
Chemult
Klamath Marsh NWR
138
Crater Lake National Park
97
JACKSON
Sycan Marsh
Ft. Klamath
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KLAMATH
Chiloquin
Gearhart Mountain
Mt. McLoughlin
Sprague River
Upper Klamath Lake
Bly
LAKE
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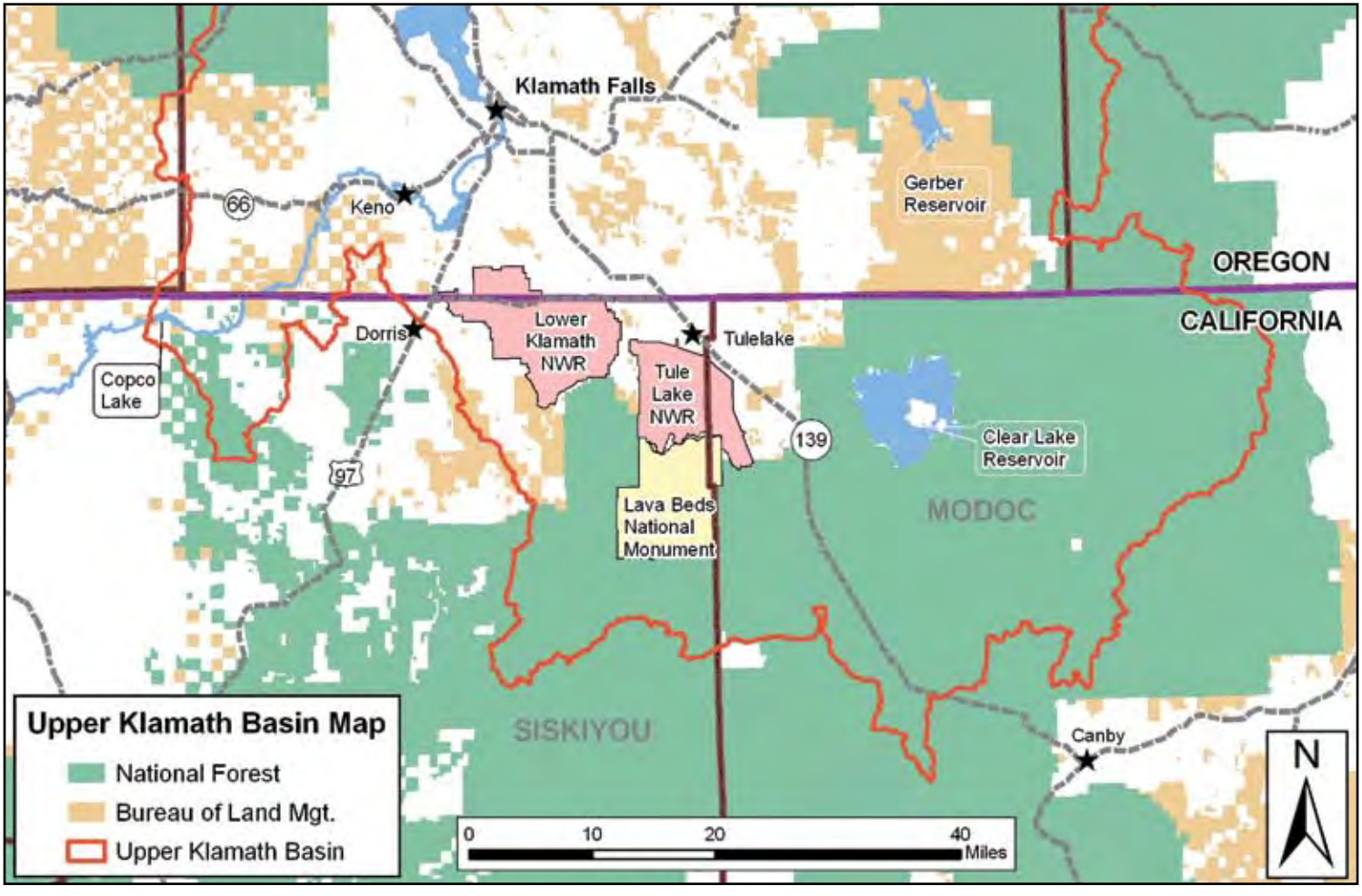
Klamath Falls
Keno
66
Gerber Reservoir
OREGON
CALIFORNIA
Dorris
Lower Klamath NWR
Tulelake
Tule Lake NWR
Copco Lake
139
Clear Lake Reservoir
97
Lava Beds National Monument
MODOC
SISKIYOU
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Upper Klamath Basin Map
National Forest
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Upper Klamath Basin
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DENNSTAEDTIACEAE
Pteridium aquilinum
(Bracken Fern)

Characteristics: Fronds are deciduous, single, 2-4 ft. tall, 3 times pinnately divided, and broadly triangular. Plants mostly reproduce by rhizome growth and sori are rarely seen. Rhizomes are much-branched and without scales.

Habitat: Dry to moist sites in ponderosa pine and mixed conifer forest, often abundant in openings.

Notes: This common fern occurs around the world. It contains a toxic cyanogenic glycoside and is carcinogenic, although it is eaten in some countries. Bracken fern is sometimes reported to cause livestock poisoning.

DRYOPTERIDACEAE
Athyrium filix-femina
(Lady Fern)

Characteristics: Fronds are deciduous, 2-3 ft. tall, 2-3 times pinnately divided, lacey, and clustered in a vase-like tuft. Stems are scaly at the base. Sori are oblong or J shaped and located along the veins. Rhizomes are short and erect, clothed with the remnants of old leaf stems.

Habitat: Moist, shady sites, usually along streams or around springs and seeps.

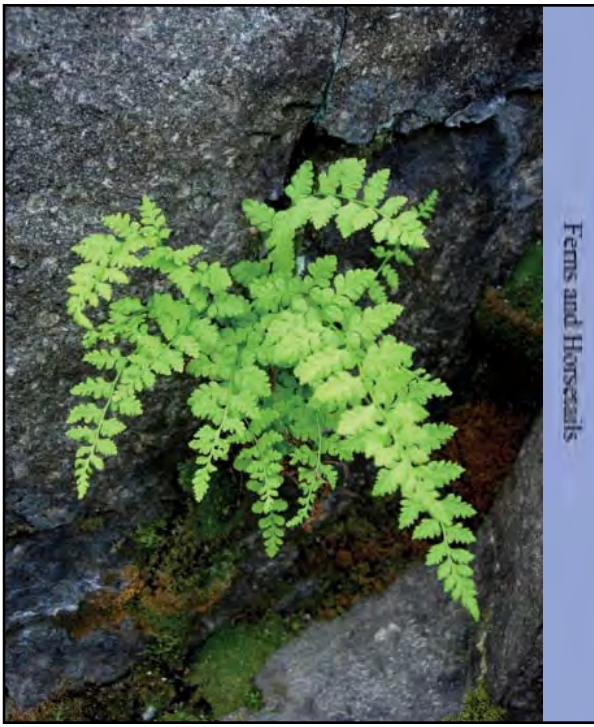
Notes: Occurs at Blue Springs south of the Sevenmile Guard Station. Can be grown in moist, shady gardens.

DRYOPTERIDACEAE
Cystopteris fragilis
(Fragile Fern)

Characteristics: Fronds are deciduous, less than 10 in. long, delicate, 2-3 times pinnately divided, and tapered to a narrow tip. Sori are rounded and located along the veins of the leaf segments with hood-like coverings. Rhizomes are short and densely scaly.

Habitat: Shady sites, often at the base of rock outcrops.

Notes: *Woodsia*, a similar looking fern, has white hairs on the fronds and branched coverings over the sori.



EQUISETACEAE
Equisetum arvense
(Common Horsetail)

Characteristics: Deciduous rhizomatous perennial up to 2 ft. tall with two types of jointed stems. Sterile vegetative stems have whorls of thin green branches, giving them a brush-like appearance. Reproductive stems are smaller, brownish, and branchless, with spore-producing cones at the apex. Cones are rounded at the tip.

Habitat: Moist places, streamsides, lake margins, and ditches.

Notes: A somewhat weedy species found around the world that is eaten and used for a variety of medicinal purposes. The fertile stems come up before the sterile stems and wither early.

EQUISETACEAE
Equisetum hymale
(Common Scouring Rush)

Characteristics: Evergreen rhizomatous perennial 2-4 ft. tall, with fertile and sterile stems alike. Stems are unbranched and jointed, with 2 black bands and small teeth at the joints. Cones have a short, sharp point.

Habitat: Moist places, streamsides, lake margins, and ditches.

Notes: *Equisetum* stems are high in silica, an abrasive compound that makes them good for scrubbing pots. Species with branches are usually called horsetails, species without branches, scouring rushes.

Ferns and Horsetails

PTERIDACEAE
Cheilanthes gracillima
(Lace Lipfern)

Characteristics: Fronds are evergreen, small, dark green or grayish, densely tufted, 2-8 in. long, and 2-3 times pinnately divided. Leaflets are oblong with dense rusty hairs beneath. Stems are dark and wiry. Sori are located along the lower leaf margin, which is rolled under and forms a "lip" over the spore cases. Rhizomes are short, with long, narrow, dark scales.

Habitat: Rock crevices, generally in full sun.

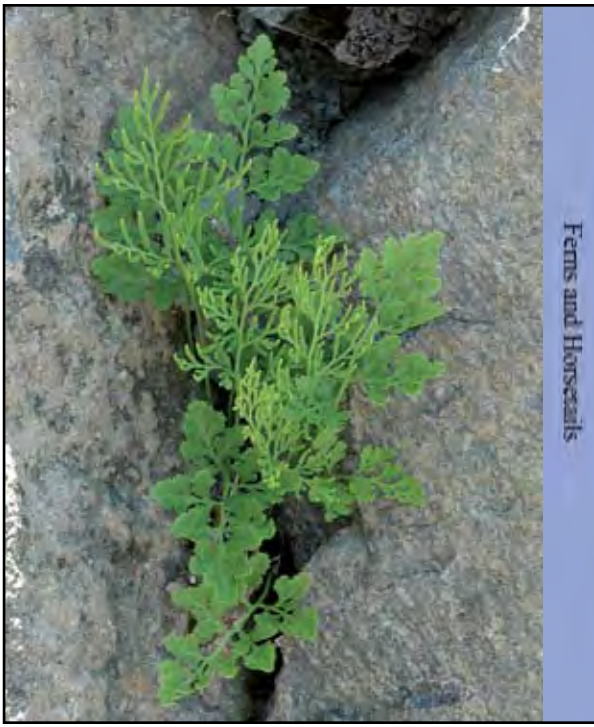
Notes: Lip ferns dry out and curl up during the hot part of the summer, then rehydrate after fall rains.

PTERIDACEAE
Cryptogramma acrostichoides
(Parsley Fern)

Characteristics: Fronds are evergreen, light green in color, densely tufted, 4-12 in. long, and 2-4 times pinnately divided. Two types of fronds are present: fertile fronds have long, narrow leaflets; sterile, vegetative fronds have wider ovate leaflets. Stems of both are green or straw colored and wiry. Sori are located along the veins of the fertile leaf segments. Leaf margins are rolled under, partially covering the sori. Rhizomes are short and scaly.

Habitat: Rock crevices and talus slopes at high elevation.

Notes: Easy to identify because of the two different frond types.



CUPRESSACEAE
Calocedrus decurrens
(Incense Cedar)

Characteristics: Evergreen tree up to 130 ft. tall with flat, fan-like branches. Leaves are bright yellow-green scales appressed to the twig. The leaf arrangement makes the twigs look jointed. Bark is orange to reddish-brown with long, stringy furrows. Cones are 1 in. long with only 3 main scales. They look like a flying goose when open.

Habitat: Found in mixed conifer forest, often with sugar pine.

Notes: Incense cedar is a popular ornamental tree. The soft aromatic wood is ideally suited for making pencils, because of its straight grain and ability to be whittled easily.

CUPRESSACEAE
Juniperus occidentalis
(Western Juniper)

Characteristics: Evergreen tree up to 60 ft. tall with a rounded crown, and often gnarled appearance. Leaves are small gray to blue-green scales with resin dots on the back. Bark is orange to reddish-brown, and stringy. Cones resemble berries: bluish, rounded, and less than ⅓ in. wide with fleshy scales.

Habitat: Dry foothills and lower mountain slopes.

Notes: Juniper wood is used for fence posts, firewood, and novelty products. Common juniper, *J. communis*, is a low growing shrub that occurs at high elevations in our area. The berries of common juniper are used as a flavoring in gin.

PINACEAE
Abies concolor
(White Fir)

Characteristics: Evergreen tree up to 200 ft. tall, with a narrow crown, often rounded on top. Lower branches are flat and spray-like. Needles are 1-3 in. long, flat, bright or dark green, and blunt on the ends. Bark is thin and grayish, becoming thicker and darker on old trees. Inner bark is mottled brown. Cones are 3-5 in. long and olive brown.

Habitat: 4200-5500 ft. elevation in the Cascades, generally above 5000 ft. farther east.

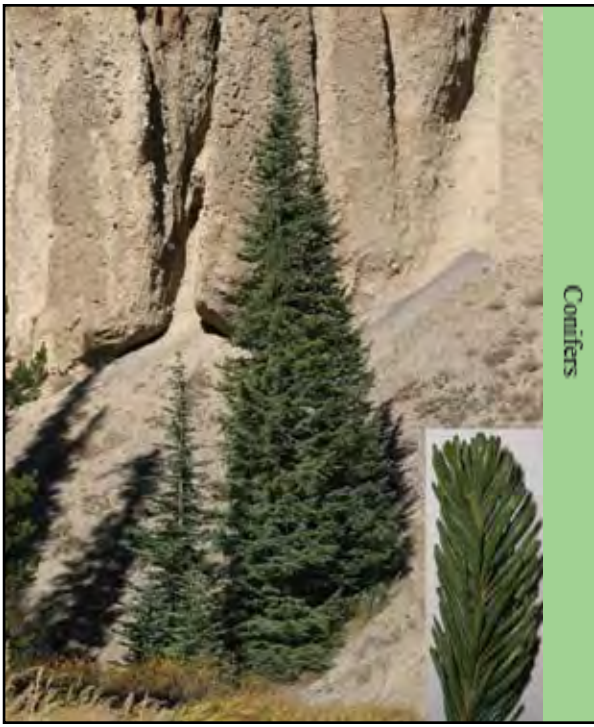
Notes: White fir is variable in this area and may intergrade with grand fir. It is an important lumber tree, and can be grown as an ornamental most places. It is susceptible to a number of diseases and insect pests, including fir engraver beetles.

PINACEAE
Abies lasiocarpa
(Subalpine Fir)

Characteristics: Evergreen tree up to 100 ft. tall, with a narrow, spire-like crown. Needles are 1-1½ in. long, bluish-green, spirally arranged and curled upward. Bark is light gray on both young and older trees. Cones are 2-4 in. long and purplish, smaller than white or Shasta red fir.

Habitat: Generally above 5000 ft. elevation in the Cascades; cold drainages and subalpine forests.

Notes: Most likely to be confused with young Shasta red fir. Look for small trees shaped like the Eiffel Tower.

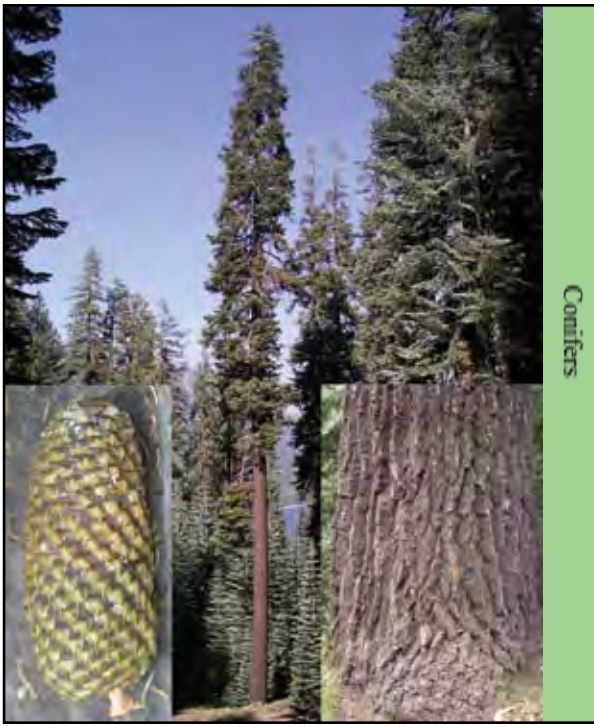


PINACEAE
Abies shastensis
(Shasta Red Fir)

Characteristics: Evergreen tree up to 200 ft. tall, with a narrow crown, often rounded on top. Needles are 1-1½ in. long, curled upward and bluish-green. Bark is gray and blistered when young, dark reddish-brown on mature trees. Inner bark is burgundy. Cones are 4-6 in. long and olive-brown, with large protruding bracts on the scales.

Habitat: Generally above 5000 ft. elevation in the Cascades.

Notes: Shasta red fir may represent a hybrid of noble and California red fir. It is prized for Christmas trees. Look for the bluish-green needles shaped like a hockey stick and reddish-brown bark.



PINACEAE
Picea engelmannii
(Engelmann Spruce)

Characteristics: Evergreen tree up to 120 ft. tall, with a dense pyramidal crown and bottlebrush branches. Needles are 1-2 in. long, dark bluish-green, sharp pointed, 4-angled, and strong smelling when crushed. Twigs have knobby pegs. Bark is gray with thin, loose scales. Cones are 2-3 in. long and light brown, with thin papery scales.

Habitat: Cold drainages and riparian areas in the Cascades.

Notes: Engelmann spruce is a minor lumber tree. The wood has a lightweight, straight grain and is used to make violins and guitar tops. Large trees can be seen along the Sevenmile Trail.

PINACEAE
Pinus albicaulis
(Whitebark Pine)

Characteristics: Evergreen tree up to 50 ft. tall, but often stunted and deformed by harsh conditions. Needles are 1½-3 in. long, green to yellow-green, and stiff, occurring in bundles of 5. Bark is thin and light gray. Cones are 1½-3 in. long and purplish brown.

Habitat: Above 7,000 ft. elevation on rocky slopes and ridges.

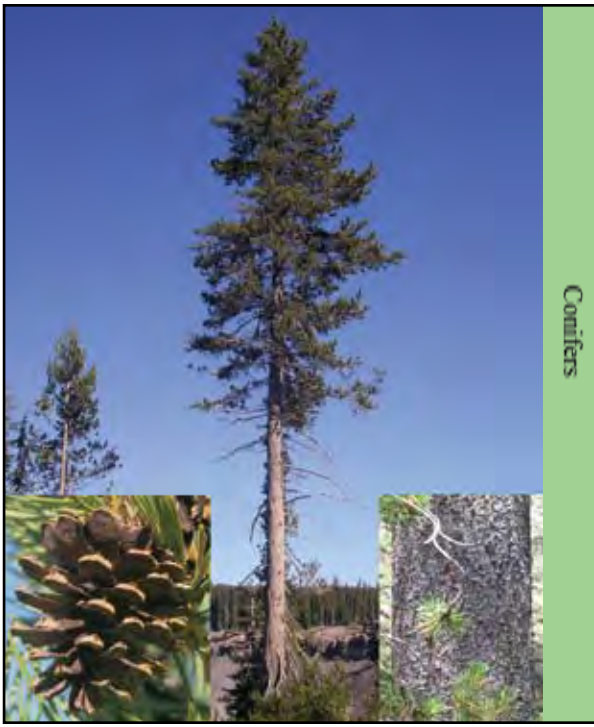
Notes: All of the 5-needled pines are susceptible to white pine blister rust, a deadly non-native disease. Spores of the fungus spread in moist air. Up to 20% of whitebark pines on the west side of Crater Lake NP are infected. The cones do not open, and the species is dependent on birds (Clark's nutcrackers) for seed dispersal.

PINACEAE
Pinus contorta
(Lodgepole Pine)

Characteristics: Evergreen tree up to 100 ft.tall. Often forms stands of straight, narrow trees with short crowns. Needles are 1½-3 in. long, green to yellow green, stiff, and twisted, occurring in bundles of 2. Bark is thin and scaly, grayish to blackish. Cones are 1-2 in. long and may remain on the tree for more than 1 year.

Habitat: Wide tolerance. Often in cold or wet basins, or at high elevation. Abundant in cold areas with deep pumice soils.

Notes: Used for posts, poles, house logs, and firewood. Easy to grow, but relatively short lived.

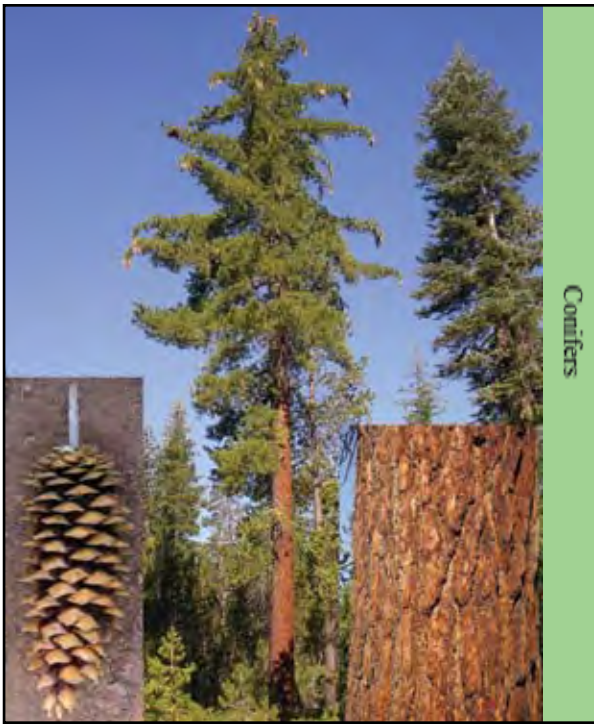


PINACEAE
Pinus lambertiana
(Sugar Pine)

Characteristics: Evergreen tree up to 200 ft. tall, with an open crown and spreading horizontal branches. Needles are 2-4 in. long, bluish-green, and flexible, occurring in bundles of 5. Bark is thin and grayish on young trees, becoming thick and reddish with age. Cones are large, 10-18 in. long, cylindrical, and thick scaled.

Habitat: Mixed conifer forest, often sunny slopes.

Notes: Easy to identify by the large cones hanging at the ends of the spreading branches. The resin contains a sugar-alcohol called pinitol. On drying, the resin turns white and tastes sweet, giving the tree its name.



PINACEAE
Pinus monticola
(Western White Pine)

Characteristics: Evergreen tree up to 180 ft. tall, with an open crown and horizontal branches. Needles are 2-4 in. long, bluish-green, flexible, occurring in bundles of 5. Bark is thin and grayish on young trees, older trees have gray bark with a distinctive rectangular blocky pattern. Cones are smaller than sugar pine; 5-12 in. long, narrow, often curved, and thin scaled.

Habitat: Mixed conifer and subalpine forest, generally at higher elevations than sugar pine.

Notes: Difficult to distinguish from sugar pine when young. Western white pine can be seen in the Lake of the Woods area.

PINACEAE
Pinus ponderosa
(Ponderosa Pine)

Characteristics: Evergreen tree up to 180 ft. tall, with thick branches and an open, often rounded, crown. Needles are 5-10 in. long, green to yellow green and flexible, occurring in bundles of 3. Bark is blackish when young, becoming yellow-orange on older trees, with plates that resemble jigsaw puzzle pieces. Cones are 3-5 in. long, the scales have a sharp prickle on end.

Habitat: Widespread in the Upper Klamath Basin.

Notes: Also called yellow pine. An important lumber and wildlife tree that is easy to grow in most areas. The bark smells like vanilla or turpentine.

PINACEAE
Pseudotsuga menziesii
(Douglas-fir)

Characteristics: Evergreen tree up to 250 ft. tall, with long, droopy bottle brush-like branches. Needles are 1 in. long, green to yellow-green, and spirally arranged. Bark is gray when young, thick, brown and deeply furrowed on mature trees. Cones are 2-4 in. long, with distinctive 3-pronged bracts.

Habitat: Mixed conifer forest. Not as abundant in our area as west of the Cascade crest.

Notes: The State Tree of Oregon, important for wildlife and lumber. Young trees are less tolerant of frost than ponderosa pine, and Douglas-fir is generally absent from areas with deep pumice soils. The bracts on the cones look like the hind legs and tail of a mouse.

PINACEAE
Tsuga mertensiana
(Mountain Hemlock)

Characteristics: Evergreen tree up to 130 ft. tall, with a narrow crown and drooping top. Needles are ½-1 in. long, thick, blue-green, and grouped on short shoots, giving them a starry appearance. Bark is dark reddish-purplish brown, cracked and furrowed. Cones are 1-3 in. long, with thin rounded scales.

Habitat: 5000 ft. elevation to tree line in the Cascades.

Notes: Mountain hemlock is slow growing, long-lived, and tolerant of cold, but is easily killed by fire. It is common in wilderness areas in the Cascades and at Crater Lake NP.

TAXACEAE
Taxus brevifolia
(Pacific Yew)

Characteristics: Slow-growing evergreen tree up to 30 ft. tall, often shrubby and twisted. Branches are spreading to droopy and flat with two-ranked needles. Needles are shiny dark yellow-green, less than 1 in. long and pointed at the tip. Bark is thin, purplish-red, and shredding. Trees are male or female. Female trees produce single seeds surrounded by a fleshy red "aril," which resemble stuffed olives.

Habitat: Riparian areas in the Cascades, can be seen along the Brown Mountain Trail. More common west of the Cascade crest.

Notes: Pacific yew bark was once harvested to produce the cancer drug Taxol. Taxol can now be made synthetically, and from chemicals found in ornamental yew needles.

ACERACEAE
Acer glabrum
(Mountain Maple)

Characteristics: Shrub or tree up to 30 ft. tall. Leaves are about 2 in. wide, opposite, and palmately lobed with 3-5 main divisions; bright green on top and paler beneath. Trees are generally either male or female. Female trees produce paired "samaras," fruits that twirl like helicopter blades as they fall, helping to disperse the seeds. Flowers in early spring.

Habitat: Streamsides and rocky openings in the mountains.

Notes: Vine maple (*A. circinatum*) also occurs in the Klamath Basin, but is less common and has larger leaves with 5-9 main lobes.

ALISMATACEAE
Damasonium californicum
(Fringed Water Plantain)

Characteristics: Perennial semi-aquatic plant rooted in the mud, with leaves erect or floating on the water surface. Leaves are oblong or narrowly elliptic 1-2½ in. long. Flowers have 3 showy white petals that are yellow at the base and have jagged or fringed margins. Fruits are 6-15 achenes with long pointed beaks. Flowers June-Aug.

Habitat: Wetlands, ditches, ponds, lakeshores.

Notes: This species is listed as Threatened by the State of Washington, but is more common in Oregon and California.

ALISMATACEAE
Sagittaria cuneata
(Arrowhead, Duck Potato)

Characteristics: Rhizomatous, tuber producing perennial, with floating or emergent arrowhead-shaped leaves. Male and female flowers are separate, and have 3 green sepals and 3 white petals. Male flowers have 15-20 stamens, female flowers have numerous pistils that become beaked achenes in fruit. Flowers July-Aug.

Habitat: Wetlands, ditches, ponds, lakeshores.

Notes: Arrowhead can be seen at Great Meadow along the High Lakes Trail. The tubers provide food for beavers, muskrats, and waterfowl. Waterfowl also eat the achenes.

ANACARDIACEAE
Rhus trilobata
(Skunkbush)

Characteristics: Shrub up to 8 ft. tall. Leaves are divided into 3-lobed leaflets. Young stems and the underside of the leaves are usually fuzzy. Flowers have 5 yellowish petals and are arranged in terminal clusters. Fruits are sticky, hairy, reddish-orange drupes about ¼ in. long. Flowers June-July.

Habitat: Dry, rocky slopes, washes, and shrublands.

Notes: The leaves turn reddish in the fall and have a skunky odor when crushed. Plants resprout vigorously after fire. This species can be seen on the road cut by Hagelstein Park.

Flowers, Hardwood Trees, and Shrubs

ANACARDIACEAE
Toxicodendron diversilobum
(Poison Oak)

Characteristics: Shrub or vine 2-7 ft. tall. Leaves are shiny dark green and divided into 3 or 5 ovate leaflets 2-3 in. long with irregular wavy margins or lobes. Flowers are small and greenish, clustered in the axils of the leaves. Fruits are off-white berry-like drupes about ¼ in. wide. Flowers April-July.

Habitat: Poison oak is found in the Klamath River Canyon, but is otherwise absent from the area.

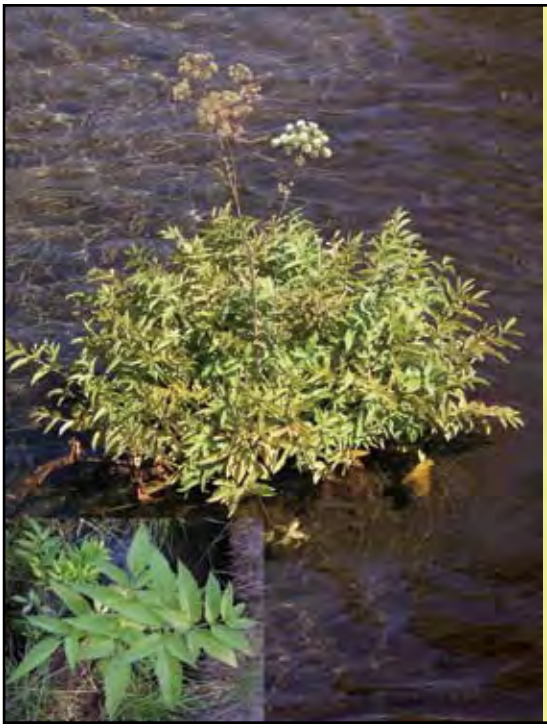
Notes: All parts of the plant contain a resin with the toxin urushiol. 70% of adults who contact the resin develop a rash. Inhalation of smoke from burning plants can cause serious inflammation of the lungs.

APIACEAE
Cicuta douglasii
(Water Hemlock)

Characteristics: Perennial 2-4 ft. tall. Leaves are 1-3 times ternately or pinnately compound with lanceolate, serrate, and sharply pointed leaflets. Small white flowers are in several rounded compound umbels. The thickened roots typically have crosswise partitions when cut lengthwise. Flowers July-Aug.

Habitat: Wetlands and moist meadows.

Notes: Extremely toxic if eaten! All parts of the plant are poisonous. The non-native poison hemlock (*Conium maculatum*) is also toxic, and is a larger plant with finely divided lacey leaves and purple dots on the stem.



APIACEAE
Eryngium alismaefolium
(Beef Thistle)

Characteristics: Biennial or perennial up to 12 in. tall from a rosette of leaves. Leaves are 2-6 in. long, lanceolate to obovate, with sharp, spiny, irregular teeth. Flowers have 5 tiny white petals and are in dense rounded heads up to ½ in. wide. Small bracts are located beneath each flower; larger bracts are at the base of the head. Fruits are small and oval shaped with numerous scales. Flowers July-Sept.

Habitat: Drying mudflats, moist meadows, pond margins.

Notes: Coyote thistle, *E. articulatum*, has spiny blue-purple heads up to 1 in. diameter.

APIACEAE
Heracleum lanatum
(Cow Parsnip)

Characteristics: Stout, hairy, aromatic, perennial up to 6 ft. tall. Leaves are 4-12 in. wide and compound with 3 large stalked leaflets, each palmately lobed and coarsely toothed. The many small white flowers are in large flat-topped compound umbels. Flowers June-Aug.

Habitat: Wetlands, streamsides, lake margins.

Notes: A distinctive and common wetland plant. Cow parsnip contains a potential skin irritant (furanocoumarin) that can cause blisters if handled.

APIACEAE
Ligusticum grayi
(Lovage)

Characteristics: Glabrous aromatic perennial 1-3 ft. tall. Leaves are compound and mostly basal, divided into numerous toothed or cleft leaflets. The many small white flowers are in 1-3 compound umbels. Flowers June-Aug.

Habitat: Margins of wetlands, openings in moist forest, streamsides.

Notes: Has a spicy smell and is also called Gray's licorice-root. Could be confused with water hemlock or species of *Angelica*. Common near the Cold Springs Trailhead.

APIACEAE
Lomatium californicum
(Wild Celery)

Characteristics: Glabrous, glaucous perennial 1-3 ft. tall, with a large taproot and celery-scented foliage. Leaves are 1-2 times ternate-pinnately compound, with wedge-shaped, 3-lobed leaflets. Flowers are greenish-yellow in large compound umbels. Fruits are flat, elliptic, and up to ½ in. long, with thick wings narrower than the body. Flowers May-June.

Habitat: Juniper woodlands, shrublands, and ponderosa pine forest. Common on Hogback Mountain.

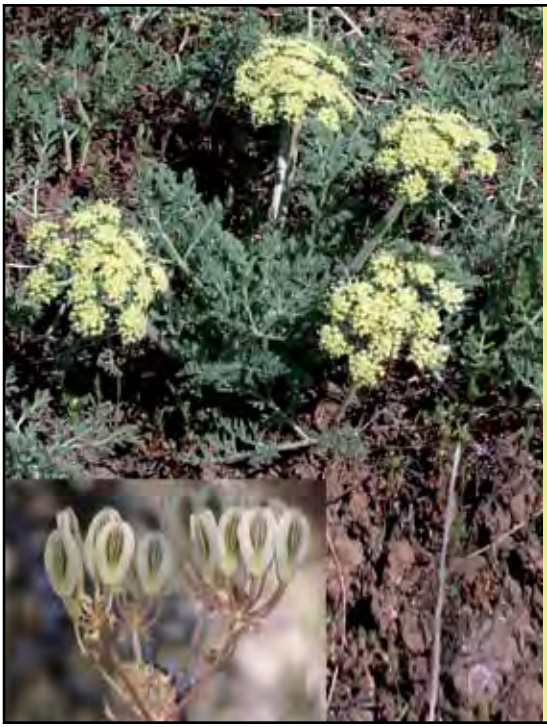
Notes: *Lomatium* species are easy to grow from seed. Large taproots, along with bulbs, tubers, and corms (which are actually modified stems), are structures used by plants to store food and water.

APIACEAE
Lomatium macrocarpum
(Big Seed Biscuitroot)

Characteristics: Perennial from a taproot or tubers up to 10 in. tall. Leaves are gray-green, usually hairy, mostly basal, 1-2 times pinnately or ternate-pinnately compound, and lobed into small segments. Flowers are cream to light yellow in compound umbels. Fruits are flat, oblong, and about ¾ in. long, with wings narrower than the body. Flowers June-July.

Habitat: Juniper woodlands, shrublands, scablands, and ponderosa pine forest. Common around Klamath Falls.

Notes: The flat, oblong fruits are larger than in most species. The name *Lomatium* comes from the Greek word "loma," which means border, referring to the winged fruits.



APIACEAE
Lomatium martindalei
(Cascade Desert Parsley)

Characteristics: Perennial from a carrot-like taproot up to 12 in. tall, glabrous and roughened. Leaves are mostly basal, 1-2 times pinnately or ternate-pinnately compound, and lobed with relatively large, leaf-like segments. Flowers are white to yellow in compound umbels. Fruits are flat, oblong, and up to ½ in. long, with wings equal or narrower than the body. Flowers June-July.

Habitat: Rocky openings in mixed conifer and subalpine forest.

Notes: Can be identified by the distinctive leaves. Occurs at Crater Lake NP.

Flowers, Hardwood Trees, and Shrubs

APIACEAE
Lomatium nudicaule
(Bare-stem Biscuitroot)

Characteristics: Glabrous, glaucous perennial from a taproot up to 2 ft. tall. Leaves are all basal and 1-3 times ternately-pinnately compound with ovate leaflets. Flowers are yellow in ball-like compound umbels with long, uneven rays. The base of the umbel where the rays meet becomes enlarged as fruits mature. Fruits are flat, narrowly oblong, and up to ½ in. long, with narrow wings. Flowers June-July.

Habitat: Juniper woodlands, shrublands, scablands, and ponderosa pine forest.

Notes: This species is easy to identify, with its bare stems that become enlarged just below the umbels. It was first collected along the Columbia River in 1806 by Lewis and Clark.

APIACEAE
Lomatium piperi
(Piper's Biscuitroot, Salt and Pepper)

Characteristics: Perennial 2-6 in. tall from a tuber with 3-6 leaves. Leaves are grayish-green, about 6 in. long, mostly basal, and 1-2 times pinnately or ternate-pinnately compound, with widely spaced linear segments. Flowers are white with purple anthers in compact compound umbels. Fruits are flat, elliptic, and up to ⅓ in. long, with wings equal to the body. Flowers March-June.

Habitat: Scablands and other rocky habitats with clay soils that are moist in spring. Can be seen near Topsy.

Notes: This small *Lomatium* is one of the earliest flowering plants in the spring and is similar to *L. gormanii*.

APIACEAE
Lomatium triternatum
(Nine-leaved Biscuitroot)

Characteristics: Perennial from a taproot up to 2 ft. tall. Leaves are mostly basal and 2-3 times ternately-pinnately compound, with narrow segments up to 4 in. long. Flowers are yellow in broad compound umbels with uneven rays. Fruits are flat, narrowly oblong, and up to ½ in. long, with narrow wings. Flowers June-July.

Habitat: Juniper woodlands, shrublands, and ponderosa pine forest. Common around Klamath Falls.

Notes: This species was apparently first reported by William Clark who made notes relating that Sacagawea brought him the plant when they were camped along the Clearwater River in Idaho on May 6, 1806.

APIACEAE
Lomatium vaginatum
(Broadsheath Desert Parsley)

Characteristics: Perennial from a taproot up to 16 in. tall. Leaves are glabrous, bright green, and finely divided. Leaf stems are red and flare at the base into a broad sheath. Flowers are bright yellow in compound umbels. Seeds are flat, elliptic, and up to ½ in. long, with wings about as wide as the body. Flowers May-June.

Habitat: Juniper woodlands and shrublands. Common around Klamath Falls.

Notes: Often found with nine-leaved and big seed biscuitroot. This species can be distinguished by the bright green, finely divided leaves, red stems, and bright yellow flowers.

Flowers, Hardwood Trees, and Shrubs

APIACEAE
Osmorhiza chilensis
(Sweet Cicely)

Characteristics: Taprooted perennial up to 2 ft. tall, with a slender simple or branched stem. Leaves are 2 times ternately compound with 9 toothed, ovate leaflets per leaf. Flowers are in several open compound umbels, with many inconspicuous greenish-white to pink or purplish flowers. Fruits are black, spindle shaped, and about ½ in. long. Flowers May-June.

Habitat: Moist forested sites at low to mid elevations.

Notes: The name sweet cicely comes from the root, which has a licorice odor when crushed. The black, needle-like fruits readily stick in socks and dog fur.

APIACEAE
Perideridia oregana
(Oregon Yampah)

Characteristics: Slender branched perennial 1-2 ft. tall from a cluster of small tubers. Leaves are 1-2 times pinnate, divided into widely spaced linear segments with a pointed tip. Leaves are usually withered by flowering. Inconspicuous white flowers are in one to several flat-topped compound umbels about 2-3 in. wide. Fruits are ¼ in. long, elliptical, and striped. Flowers July-Sept.

Habitat: Seasonally moist meadows and scablands that are dry by mid summer, often in clay soils.

Notes: This species can be abundant, turning meadows white when in flower. Gairdner's yampah, *P. gairdneri*, is a larger species that tends to flower later and has rounded BB-like fruits.

APIACEAE
Sanicula graveolens
(Northern Black Snakeroot)

Characteristics: Perennial with a taproot 2-18 in. tall and widely branched at the base. Leaves are green to purplish, ternately divided, then 1-2 times pinnately lobed. The yellow 5-petaled flowers are in head-like umbels with leaf-like bracts beneath. Both bisexual and male flowers are present. Fruits are small, oval shaped, and covered with hooked prickles. Flowers May-July.

Habitat: Gravelly slopes and flats in open ponderosa pine or mixed conifer forest.

Notes: Occurs along Highway 66 west of Keno in the Topsy area.

APIACEAE
Sphenosciadium capitellatum
(Ranger's Buttons)

Characteristics: Stout, perennial 2-4 ft. tall. Leaves are 1-2 times pinnately compound with lanceolate, toothed leaflets. The inflorescence is a compound umbel with 4-18 compact round heads about the size of a marble, with many inconspicuous white to greenish or purplish flowers. The rays of the umbel are white and woolly. Fruits are ¼ in. long and wedge shaped, with prominant ridges. Flowers July-Aug.

Habitat: Wetlands, springs, and seeps.

Notes: Ranger's buttons are easy to identify because of their unusual round flower clusters.

Flowers, Hardwood Trees, and Shrubs

APOCYNACEAE
Apocynum androsaemifolium
(Bitter Dogbane, Hemp)

Characteristics: Branched perennial, erect to trailing, and up to 1½ ft. tall with milky sap. Leaves are elliptic to ovate, opposite, and drooping or spreading. The 5-petaled pink flowers are tubular to bell shaped and about ¼ in. wide, with 1 stigma. Flowers have a baby powder-like fragrance. Fruits are long, pointed follicles. Flowers July-Aug.

Habitat: Openings in ponderosa pine and mixed conifer forest.

Notes: Bitter dogbane is perhaps most conspicuous in fall when the leaves turn golden or red. Dogbane contains cymarin, which can cause heart arrhythmia.

ARISTOLOCHIACEAE
Asarum caudatum
(Wild Ginger)

Characteristics: Trailing rhizomatous perennial with a ginger smell and taste. Leaves are paired, evergreen, and heart shaped. Flowers are maroon-colored and hidden beneath the leaves. Petals are absent; the 3 sepals are fused into a rounded base with long-pointed tips. The ovary is inferior. Fruits are capsules. Flowers May-July.

Habitat: Moist shady forest and streamsides. Can be seen south of the Sevenmile Guard Station.

Notes: Wild gingers are not related to commercial ginger. Wild ginger seeds have a fleshy, oil-rich appendage called an "elaiosome" that attracts ants, their primary seed disperser.

ARISTOLOCHIACEAE
Asarum wagneri
(Green-flowered Wild Ginger)

Characteristics: Trailing rhizomatous perennial with a ginger smell and taste. Leaves are paired, yellow-green, and heart shaped, smaller than other wild gingers. Flowers are green and hidden beneath the leaves. Petals are absent; the 3 sepals are fused into a rounded base with long-pointed tips. The ovary is inferior. Fruits are capsules. Flowers May-July.

Habitat: Occurs only in the southern Oregon Cascades, usually on dry soils in mixed conifer forest.

Notes: Green-flowered ginger can be seen along the High Lakes Trail.

ASCLEPIADACEAE
Asclepias fascicularis
(Narrowleaf Milkweed)

Characteristics: Rhizomatous perennial 2-3 ft. tall with milky sap. Leaves are linear to lanceolate, 2-6 in. long, and arranged in whorls of 3-6. Flowers are small, greenish white to purplish and arranged in umbels. Flowers have petals and sepals bent backwards and 5 fused anthers with hood-like appendages. Fruits are spindle-shaped follicles about 4-5 in. long, with small hairy-tufted seeds. Flowers July-Aug.

Habitat: Uncommon in fields, meadows, and along roadsides.

Notes: Found near Gerber Reservoir and a few other sites in our area.

Flowers, Hardwood Trees, and Shrubs

ASCLEPIADACEAE
Asclepias speciosa
(Showy Milkweed)

Characteristics: Hairy rhizomatous perennial 2-3 ft. tall with milky sap. Leaves are lanceolate to ovate, 4-8 in. long, and opposite. Flowers are pink to reddish-purple and arranged in umbels. Flowers have petals and sepals bent backwards and 5 fused anthers with hood-like appendages. The rough follicles are ovate and about 4-5 in. long, with small hairy-tufted seeds. Flowers July-Aug.

Habitat: Uncommon in fields, meadows, and along roadsides.

Notes: The unique flower structure makes milkweeds easy to identify and faciliates pollination by bees.

ASTERACEAE
Achillea millefolium
(Yarrow)

Characteristics: Aromatic, rhizomatous perennial up to 3 ft. tall and usually branched. Leaves are alternate, gray-green, hairy, and finely pinnately divided, appearing fern-like. Flower heads are about ⅓ in. wide with 3-5 white, ovate to rounded ray flowers and 10-30 white disk flowers. Flower heads are numerous in flat-topped (or rounded), branched, clusters. Flowers June-Aug.

Habitat: Dry to moist, open, disturbed areas at all elevations. Widespread.

Notes: Yarrow is one of our most common and easily recognized wildflowers and has a long history of medicinal use. It does well in a native plant garden started from seed or rhizome cuttings, and attracts both bees and butterflies.

ASTERACEAE
Adenocaulon bicolor
(Trail Plant)

Characteristics: Perennial 1-3 ft. tall with mostly basal leaves. Leaves have long stalks and are triangular to heart shaped, up to 10 in. long, green above and white-woolly below, with a toothed or entire margin. Flower heads are small with 10-20 white disk flowers and no ray flowers. Flower heads are scattered in a branched, glandular inflorescence at the top of a nearly leafless stalk. Fruits are club-shaped and glandular. Flowers June-Aug.

Habitat: Moist mixed conifer forest.

Notes: The species name bicolor comes from the two-tone leaves, green on top and white below. Exposed white undersides indicate where a person has walked through the woods, hence the name trail plant.

ASTERACEAE
Ageratina occidentalis
(Ageratina, Boneset)

Characteristics: Perennial from a woody rhizome with multiple branched stems up to 1½ ft. tall. Leaves are alternate, broadly triangular, and toothed. Flower heads have no ray flowers and 10-20 long, tubular, pink to lavender or white disk flowers, with protruding styles. Flower heads are clustered at the ends of the leafy branches. Flowers Aug-Sept.

Habitat: Rock crevices at 6,000-8,000 ft. elevation.

Notes: Ageratina is distinctive with its colorful pinkish flowers. It grows from crevices along the Garfield Peak Trail at Crater Lake NP, and in the Palisades area of the Lookout Rock Trail in Gearhart Mt. Wilderness.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Agoseris aurantiaca
(Orange Agoseris)

Characteristics: Taprooted perennial to about 1 ft. tall with milky sap. Leaves are basal, linear to oblanceolate, and entire to few toothed. Flower heads are ligulate and about 1 in. wide, with many burnt orange, strap-like flowers. Flower heads are single on leafless stalks above the leaves. Flowers June-Aug.

Habitat: Dry to moist meadows and streamsides at mid to high elevations.

Notes: One of the few orange-flowered species in our area. Flowers often turn purplish as they dry.

ASTERACEAE
Agoseris glauca
(Pale Agoseris)

Characteristics: Taprooted perennial 6-10 in. tall with milky sap. Leaves are basal, linear to narrowly lanceolate, entire and often wavy margined, or sometimes lobed or toothed. Flower heads are ligulate and about 1 in. wide, with many yellow, strap-like flowers. Flower heads are single on leafless stalks above the leaves. Flowers April-Aug.

Habitat: Meadows, seasonally moist sites, and forest openings.

Notes: Species of *Agoseris* resemble *Taraxacum* (the dandelions), with single heads on leafless stalks, milky sap, and fruits with plumes of fine bristles. Up close you can see tiny spiny bumps on dandelion seeds, which are absent in *Agoseris*.

ASTERACEAE
Agoseris heterophylla
(Annual Agoseris)

Characteristics: Taprooted annual up to 6 in. tall with milky sap. Leaves are basal, narrowly oblanceolate, and entire or toothed. Flower heads are ligulate and about ½ in. wide, with yellow, strap-like flowers. Flower heads are single on usually leafless stalks above the leaves. Flowers May-June.

Habitat: Primarily disturbed habitats at low elevations.

Notes: A native weedy species common around Klamath Falls. Often flower heads do not open completely and are self-pollinated.

ASTERACEAE
Agoseris retrorsa
(Spear-leaved Agoseris)

Characteristics: Taprooted perennial up to 1½ ft. tall with milky sap. Leaves are basal and spear shaped with conspicuous downward pointing teeth. Flower heads are ligulate and 1-2 in. long, with many yellow, strap-like flowers. The inner phyllaries of the involucre look purple/green striped, outer phyllaries are woolly and pointed. Flower heads are single on leafless stalks above the leaves. Flowers June-Aug.

Habitat: Shrublands to forest openings, often in disturbed areas.

Notes: A common species recognized by its large flower heads and long, coarsely-toothed leaves. Flower heads often do not open completely.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Anaphalis margaritacea
(Pearly Everlasting)

Characteristics: Perennial up to 2 ft. tall, with multiple stems from a rhizome. Leaves are alternate, sessile, lanceolate to linear, green above, and white-woolly below. Flower heads are about ⅓ in. wide with many yellowish disk flowers and no rays. Surrounding each head is an involucre with pearly white, papery phyllaries. Heads are numerous in branched terminal inflorescences. Flowers Aug-Oct.

Habitat: Streamsides, moist forest, meadows, and rocky habitats at mid to upper elevations.

Notes: This species is often grown as an ornamental and is common at Crater Lake NP. The persistent white phyllaries give the plant its name.

ASTERACEAE
Antennaria argentea
(Silvery Pussytoes)

Characteristics: Rhizomatous, silvery-hairy perennial 1-1½ ft. tall, forming loose mats. Leaves are mostly basal, 1-2 in. long, and elliptical to oblanceolate, becoming smaller up the stem. Flower heads are about ¼ in. wide, with white disk flowers and white phyllaries. Flower heads are in clusters of 10-50 on tall stems. Flowers April-July.

Habitat: Highly variable, but often open rocky or sandy habitats, at all elevations.

Notes: This species gets its name from the silvery hairs that cover the leaves. Pussytoes can be grown from seed or cuttings and do well in a rock garden.

ASTERACEAE
Antennaria dimorpha
(Low Pussytoes)

Characteristics: Dwarf, gray-fuzzy, mat-forming perennial. Leaves are ½-1 in. long and linear to spoon-shaped. Flower heads are about ¼ in. wide, with dirty-white disk flowers and brownish involucres. Flower heads are single on short stems and are hidden among the leaves. Flowers April-July.

Habitat: Scablands and other open rocky habitats, often with clay soils.

Notes: This species is quite common but often overlooked because of its small size. Pussytoes are characterized by having separate male and female plants, discoid flower heads, papery phyllaries, and mats of hairy leaves.

ASTERACEAE
Antennaria rosea
(Rosy Pussytoes)

Characteristics: Gray hairy to woolly, mat-forming perennial ½-1½ ft. tall with stolons. Leaves are mostly basal, ½-1½ in. long, and oblanceolate, becoming smaller up the stem. Flower heads are ¼ in. wide, with white disk flowers and pink to reddish phyllaries. Flower heads are in tight clusters of 3-16, resembling a tiny cat's paw. Flowers May-July.

Habitat: Openings in ponderosa pine, lodgepole pine, and mixed conifer forest, and dry meadow edges.

Notes: Several species of *Antennaria* occur in our area. This common forest species can be identified by the pink to reddish phyllaries. Rosy pussytoe plants are generally all female and produce asexual seeds.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Arnica chamissonis
(Meadow Arnica)

Characteristics: Gray-fuzzy perennial 1-3 ft. tall, with multiple stems from long rhizomes. Leaves are 2-5 in. long, lanceolate, opposite, sessile, and mostly entire, arranged in 5-10 pairs. The lower stem is often leafless. Flower heads are 1-2 in. wide, with 8-13 yellow rays and yellow disk flowers. Distinctive tufts of hair are at the top of the phyllaries. Flowers June-July.

Habitat: Mountain meadows and streamsides. Lower stems are often under water early in the year, with leaves and flowers above the surface.

Notes: Arnicas spread by rhizomes covering large areas, especially in meadows where they may dominate. This species is abundant at Great Meadow near Lake of the Woods.

ASTERACEAE
Arnica cordifolia
(Heartleaf Arnica)

Characteristics: Hairy, glandular perennial 6-18 in. tall, with multiple stems, often in patches connected by rhizomes. Leaves are up to 5 in. long, heart shaped, toothed, and opposite. Flower heads are 2-3 in. wide, with 10-15 yellow rays and yellow disk flowers. Flower heads are 1-3 per stem. Flowers June-Aug.

Habitat: Ponderosa pine and mixed conifer forest.

Notes: Can be identified by the distinctive heart-shaped leaves. *Arnica* species are toxic when ingested, but some (e.g., the European *A. montana*) are used to make liniments for strains, sprains, and bruising.

ASTERACEAE
Arnica longifolia
(Longleaf Arnica)

Characteristics: Rhizomatous perennial 1-2 ft. tall, short-hairy and often sticky. Leaves are lanceolate, 2-5 in. long, and entire, arranged in 5-7 opposite pairs on the stem with few at the base. Leaves are sessile, sometimes with the bases fused around the stem. Flower heads are 1-2 in. wide, with 8-13 yellow rays and yellow disk flowers. Flower heads are 1-10 per stem. Flowers July-Sept.

Habitat: Springs, seeps, lake margins and other moist sites in the mountains, often growing in large patches.

Notes: Similar to *Arnica mollis*, but has shorter hairs, leafier stems, and smaller, more numerous flower heads.

ASTERACEAE
Arnica mollis
(Hairy Arnica)

Characteristics: Perennial to about 2 ft. tall, with multiple stems from a rhizome. Leaves are 2-5 in. long, elliptical to lanceolate, entire to toothed, opposite, soft-hairy, and glandular. Leaves are in 3-5 pairs per stem with short or no petioles. Flower heads are 2-3 in. wide, with 12-18 yellow rays and yellow disk flowers. Flower heads are 1-3 per stem. Flowers July-Sept.

Habitat: Mountain slopes and meadows at high elevations.

Notes: This species gets its name from the soft hairy leaves. *Arnica* species are characterized by having yellow flower heads, rhizomes, and pairs of opposite leaves.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Artemisia arbuscula
(Low Sagebrush)

Characteristics: Aromatic evergreen shrub up to 1½ ft. tall, with a long taproot and spreading fibrous roots. The narrow, wedge-shaped, gray-green leaves are ½-¾ in. long with 3 distinct lobes. The inflorescence is narrow and spike-like with many small and inconspicuous flower heads sitting in leaf axils. Flowers Aug-Sept.

Habitat: Scablands and juniper woodlands often on rocky, shallow, clay soils.

Notes: Low sagebrush is similar to big sagebrush, but is smaller and grows in shallow soils. It is primarily found east of the Cascades. Sagebrush species have small flowers that are wind pollinated and cause hay fever in some people.

ASTERACEAE
Artemisia cana
(Silver Sagebrush)

Characteristics: Aromatic shrub up to 3 ft. tall, with a long taproot and spreading fibrous roots. The linear leaves are gray-green, entire, and 1-2 in. long. Leaves and stems are covered with dense white hairs. The inflorescence is spike-like with many small and inconspicuous flower heads sitting in leaf axils. Flowers Aug-Sept.

Habitat: Along creeks in shrublands and juniper and ponderosa pine woodlands.

Notes: Named for the silvery felt-like hairs on leaves and twigs. About 10 species of *Artemisia* occur in our area and provide important browse for deer, pronghorn, sage grouse, and other wildlife.

ASTERACEAE
Artemisia douglasiana
(Mugwort)

Characteristics: Aromatic perennial up to 6 ft. tall from a rhizome. Leaves are white-hairy beneath and green above, lanceolate to elliptic, 2-3 in. long, and entire to coarsely toothed or lobed. The inflorescence is narrow and spike-like with many small, inconspicuous flower heads sitting in leaf axils. Flowers Aug-Sept.

Habitat: Meadows and streamsides at low to mid elevations.

Notes: Mugwort is similar to silver wormwood, but generally has broader leaves that are green on top.

ASTERACEAE
Artemisia ludoviciana
(Silver Wormwood)

Characteristics: Aromatic perennial up to 3 ft. tall from a rhizome. The narrow, lanceolate, white-hairy leaves are 3 or more inches long and are sometimes pinnately lobed. The inflorescence is narrow and spike-like with many small, inconspicuous flower heads sitting in leaf axils. Flowers Aug-Sept.

Habitat: Along creeks in shrublands and juniper and ponderosa pine woodlands.

Notes: The silvery leaves and pungent odor make this species conspicuous. Although *Artemisia* species are referred to as "sage" they are not related to the real sages (genus *Salvia*), which are in the mint family.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Artemisia tridentata
(Big Sagebrush)

Characteristics: Aromatic evergreen shrub up to 5 ft. tall, with a long taproot and spreading fibrous roots. The narrow, wedge-shaped, gray-green leaves are ¾-2 in. long with 3 small lobes at the end. The inflorescence is narrow and spike-like, with many small and inconspicuous flower heads sitting in leaf axils. Flowers Aug-Sept.

Habitat: Shrublands and juniper and ponderosa pine woodlands with deep soil.

Notes: Big sagebrush has 3 varieties - basin, mountain, and Wyoming - and is likely the most abundant shrub in western North America. Agriculture has replaced big sagebrush habitat in parts of the Upper Klamath Basin.

ASTERACEAE
Aster alpigenus
(Alpine Aster)

Characteristics: Perennial 6-12 in. tall from a taproot. Leaves are mostly at the base, 2-10 in. long, and linear to oblanceolate. Flower heads have 10-40 purple to violet rays about ½ in. long and yellow disk flowers. Flower heads are single on lax or erect stems. Flowers July-Aug.

Habitat: Moist mountain meadows at upper elevations.

Notes: Alpine aster is our smallest aster, distinguished by its long, narrow basal leaves. It grows in meadows in the Cascades and is common at Crater Lake NP.

ASTERACEAE
Aster eatonii
(Eaton's Aster)

Characteristics: Slender perennial up to 4 ft. tall from a rhizome. Leaves are 2-6 in. long, alternate, sessile, and linear to lanceolate. Stem leaves are numerous; basal leaves wither by flowering. Flower heads have 20-40 narrow white to pink rays about ¼-½ in. long, and yellow disk flowers. Flower heads are numerous in a long, narrow, branched inflorescence. Flowers July-Aug.

Habitat: Wet meadows, ditches, and riparian habitats at low to mid elevations.

Notes: This species is especially common in the Wood River Valley. Most asters are easily grown from seeds or rhizomes. The rhizomes can be divided by cutting them into short sections in the fall.

ASTERACEAE
Aster foliaceus
(Leafy-bracted Aster)

Characteristics: Slender perennial 1-3 ft. tall from a rhizome. Leaves are 2-5 in. long, alternate, and lanceolate to ovate, decreasing in size up the stem. Flower heads have 15-50 blue to purple rays about ½ in. long and yellow disk flowers. Outer phyllaries are green and somewhat leafy. Flowers July-Aug.

Habitat: Wet meadows, ditches, and riparian habitats at low to mid elevations.

Notes: *Aster foliaceus var. parryi* intergrades with western mountain aster, *A. occidentalis*. One or the other of these two species commonly occurs in moist to wet meadows.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Aster ledophyllus
(Cascade Aster)

Characteristics: Slender perennial to about 2 ft. tall from a taproot. Leaves are 1-2½ in. long, alternate, sessile, lanceolate to elliptic, green on top and gray-woolly beneath. The upper stem is leafy with lower leaves reduced to small scales. Flower heads have 0-20 violet rays about ¾ in. long and yellow disk flowers. Phyllaries are sharp pointed, with a green mid vein and dark tip. Flowers July-Aug.

Habitat: Variable but mostly dry habitats at mid to high elevations in the Cascades.

Notes: This species is the most common aster in Crater Lake NP, where it can be seen along roadsides and on sunny slopes.

ASTERACEAE
Aster radulinus
(Rough-leaved Aster)

Characteristics: Rhizomatous perennial 8-24 in. tall. Leaves are mainly on the stem, 1½-4 in. long, elliptic to ovate, firm, sharply toothed, and rough hairy beneath. Flower heads are few to numerous in flat-topped inflorescences. Heads are about 1 in. wide, with yellow disk flowers and 10-15 white to purple rays. Flowers July-Aug.

Habitat: Openings in mixed conifer forest.

Notes: Can be seen near Rocky Point and Surveyor Mountain.

ASTERACEAE
Balsamorhiza deltoidea
(Deltoid Balsamroot)

Characteristics: Perennial 2-3 ft. tall, with multiple stems from a large woody taproot. Leaves have long petioles, and are 8-12 in. long, triangular or heart shaped, entire, and sparsely hairy. Flower heads are about 3 in. wide with 13-21 yellow ray flowers, numerous yellow disk flowers, and a sparsely woolly involucre. Flower heads are 1-few on stems with a few small leaves. Flowers May-June.

Habitat: Open ponderosa pine and mixed conifer forest at low elevation.

Notes: Mostly found west of Upper Klamath Lake near Odessa and along the Klamath River west of Keno. Balsamroots are named for the sticky, sweet-smelling sap in the roots.

ASTERACEAE
Balsamorhiza sagittata
(Arrowleaf Balsamroot)

Characteristics: Perennial to 3 ft. tall, with multiple stems from a large woody taproot. Leaves have long petioles, and are 8-10 in. long, heart shaped, entire, and covered with soft hairs, especially on the lower surface when young. Flower heads are about 3 in. wide with 10-25 yellow ray flowers, numerous yellow disk flowers, and a woolly involucre. Flower heads are 1-few on stems with a few small leaves. Flowers May-June.

Habitat: Juniper woodlands and open ponderosa pine forest.

Notes: *B. deltoidea* is similar, but much less hairy on the upper leaf surface. Hooker's balsamroot, *B. hookeri*, is a smaller plant with pinnately divided leaves often found in scablands.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Bidens cernua
(Nodding Bur Marigold)

Characteristics: Annual 2-3 ft. tall with multiple branched stems. Leaves are sessile, lanceolate, coarsely-toothed, about 6 in. long, and opposite, with the bases fused around the stem. Flower heads are about 2 in. wide with 6-8 yellow rays and numerous yellow disk flowers. Flower heads nod on leafy stems. Achenes are small, 4-angled, and wedge shaped, with 4 barbs on top. Flowers Aug- Sept.

Habitat: Wetlands and canals at low elevations. Common around Klamath Falls.

Notes: The barbed fruits stick to fur and clothing and are called "beggar ticks" or "sticktights." Easy to grow from seeds or cuttings, but needs ample moisture. Recommended for use in wetland restoration.

ASTERACEAE
Blepharipappus scaber
(Rough Eyelash)

Characteristics: Slender, branched annual 4-12 in. tall. Leaves are alternate, sessile, and linear. Flower heads are about ½ in. across, with 2-7 broad, white, deeply 3-lobed rays, sometimes with purple veins. Disk flowers are also white with purple stigmas. Achenes are small and hairy with flattened bristles. Flowers May-June.

Habitat: Bare soils in dry open habitats; shrublands, woodlands, and rocky ridges. Widespread.

Notes: *Blepharipappus* means "eyelash pappus," referring to the flattened bristles on the fruits. *Scaber* means "rough." This little plant is very abundant in the early summer.

ASTERACEAE
Chaenactis douglasii
(Dusty Maiden)

Characteristics: Biennial or perennial up to 1½ ft. tall. Leaves are mostly basal, twice pinnately divided, and covered with gray, cobwebby hairs. Flower heads are glandular and about ½ in. across with white to pink disk flowers and no rays. Heads are few to several in open branched clusters. Flowers July-Aug.

Habitat: Rocky slopes, cinders, and pumice soils at low to upper elevations.

Notes: Dusty maiden is common in the drier areas of the Upper Klamath Basin, but can be easily missed. Look for it at Lava Beds NM, at Devil's Garden, and in pumice areas north of Chiloquin.

ASTERACEAE
Chrysothamnus nauseosus
(Rubber Rabbitbrush)

Characteristics: Gray-green shrub 2-4 ft. tall with dense, woolly hairs. Leaves are thread-like, entire, alternate, and about 1-3 in. long. Flower heads are small and narrow with usually 5 yellow disk flowers. Flower heads are numerous in flat-topped to rounded, branched terminal clusters. Flowers Aug-Oct.

Habitat: Widespread, but most common in shrublands with sagebrush. Tolerant of shallow or alkaline soils.

Notes: Rubber rabbitbrush is abundant in disturbed habitats and can indicate overgrazed conditions. The sap contains "chrysil," considered as a replacement for rubber during World War II. Plants are somewhat smelly when wet or crushed. Also called *Ericameria nauseosa*.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Chrysothamnus viscidiflora
(Green Rabbitbrush)

Characteristics: Shrub 1-3 ft. tall. Leaves are green, linear to oblong, flat, entire, alternate, and often twisted. Flower heads are small and narrow with 3-13 yellow disk flowers. Flower heads are numerous in flat-topped to rounded, branched terminal clusters. Flowers Aug-Oct.

Habitat: Juniper and ponderosa pine woodlands.

Notes: Green rabbitbrush is less common than rubber rabbitbrush and lacks the dense white hairs. Both of the rabbitbrushes and goldenbush can be seen on Modoc Rim. These species attract multitudes of nectar-feeding insects, especially bees.

ASTERACEAE
Cirsium cymosum
(Peregrine Thistle)

Characteristics: Stout, branched perennial up to 3 ft. tall. Leaves have cobwebby hairs, and are narrow, pinnately lobed, and toothed with spine tips. Stems lack spines. Flower heads are about 1 in. tall and hemispheric, with numerous, long, white to pink disk flowers. The phyllaries of the involucre have short spine tips and sticky glandular areas. Flowers June-Aug.

Habitat: Shrublands, juniper woodlands, and open pine forest, often in disturbed sites.

Notes: A native thistle many people think is an introduced weed. Thistles have long plumes on the seeds that aid in wind dispersal.

ASTERACEAE
Cirsium scariosum
(Elk Thistle)

Characteristics: Biennial or short-lived perennial, usually with a rosette of leaves and no stem. Leaves are oblong, hairy, and pinnately lobed or toothed with spine tips. Flower heads are about 1½ in. tall and bell shaped, with numerous long white disk flowers. Flower heads are mostly sessile in the center of the leaves. Flowers July-Sept.

Habitat: Moist mountain meadows and streamsides.

Notes: A moderately spiny native thistle easy to identify because of the sessile flower heads.

ASTERACEAE
Cirsium vulgare
(Bull Thistle)

Characteristics: Stout, branched biennial up to 6 ft. tall from a taproot. Leaves are lanceolate, pinnately lobed with spine tips, and green hairy above, woolly below. Stems have spiny wings. Flower heads are vase shaped and 1-2 in. tall, with spiny involucres and numerous long purple disk flowers. Flowers July-Sept.

Habitat: Widespread in disturbed sites: roadsides, vacant lots, clearcuts, and burns.

Notes: A spiny weed introduced from Eurasia. If you have questions about noxious thistles or other invasive plants, contact Klamath County Weed Control.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Crepis acuminata
(Tapertip Hawksbeard)

Characteristics: Branched perennial up to 2 ft. tall from a taproot with milky sap. Leaves are mostly basal, up to 1 ft. long, and pinnately lobed, with a long tapering tip. Flower heads are numerous (20-100) ligulate, and about ¼ in. wide, with 5-10 yellow, strap-like flowers. Flowers June-July.

Habitat: Shrublands, scablands, and open ponderosa pine forest.

Notes: This species is recognized by the numerous narrow, golden heads and pinnately-lobed leaves with a long tapering tip. Slender hawksbeard, *C. atrabarba*, has pinnately-lobed leaves with linear segments and occurs at higher elevations in the mountains.

ASTERACEAE
Crepis modocensis
(Modoc Hawksbeard)

Characteristics: Branched perennial up to 1 ft. tall from a taproot with milky sap. Leaves are mostly basal, up to 8 in. long, grayish-green, and pinnately lobed and toothed. The 1-10 flower heads are ligulate and about ½ in. wide, with 10-60 yellow, strap-like flowers. Phyllaries have non-glandular black bristles. Flowers June-July.

Habitat: Shrublands, scablands, and open ponderosa pine forest.

Notes: Phyllaries have black bristles and white-woolly hairs; lower stems have stout yellow bristles. Similar to Baker's hawksbeard (*C. bakeri*), which has glandular bristles, and green leaves with reddish midribs. Western hawksbeard (*C. occidentalis*) is gray-woolly.

ASTERACEAE
Crocidium multicaule
(Spring Gold)

Characteristics: Delicate annual 2-4 in. tall. Leaves are fleshy, alternate, and linear to obovate with woolly hairs. Flower heads are about ½ in. across, with 5-15 yellow rays and yellow disk flowers. Flower heads are single on thread-like stems. Flowers March-April.

Habitat: Bare soil in shrublands and woodlands at low elevations.

Notes: Spring gold is one of our earliest spring flowers and is often abundant where found, but its occurrence is spotty. It is common near Perez, CA south of Newell, and in the Butte Valley National Grasslands near Dorris, CA. It is easy to grow from seed, but may be difficult to maintain.

ASTERACEAE
Dimeresia howellii
(Doublet, Dimeresia)

Characteristics: Nearly flat annual up to about 2 in. wide. Leaves are spoon-shaped to ovate, entire, and about 1 in. long. Flower heads are tiny, with only 2-3 white to light purple disk flowers. Flower heads are often numerous in central clusters surrounded by the leaves. Flowers June-July.

Habitat: Open fine gravel and sandy slopes.

Notes: Dimeresia is a distinctive and unusual plant once considered rare, until it was recognized that it only grows on fine gravel and sandy slopes. It occurs in our area at Lava Beds NM and Devil's Garden.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Ericameria bloomeri
(Goldenbush)

Characteristics: Shrub 1-2 ft. tall. Leaves are thread-like to oblanceolate, entire, alternate, and about 1-2 in. long. Flower heads are small and narrow with 1-5 yellow rays and 4-12 yellow disk flowers. Flower heads are clustered at the ends of the branches. Flowers July-Oct.

Habitat: Lodgepole pine, ponderosa pine and mixed conifer forest, most common in pumice soils.

Notes: A small shrub with golden-yellow flowers having a few, relatively long rays. It occurs in abundance along Hwy 97 between Chiloquin and Chemult. In comparison, the rabbitbrushes generally lack ray flowers, rubber rabbitbrush is gray-green, and green rabbitbrush has wider leaves that are twisted.

ASTERACEAE
Erigeron bloomeri
(Bloomer's Daisy)

Characteristics: Low-growing perennial up to 6 in. tall with fine white hairs. Leaves are 1-3 in. long, linear to thread-like, and nearly all at the base. Flower heads are hemispheric and about ¼-½ in. wide, with yellow disk flowers and no rays. Phyllaries are nearly equal, hairy, and glandular. Heads are single on thin stems. Flowers July-Aug.

Habitat: Found at low elevations in scablands and other dry, rocky habitats.

Notes: Bloomer's daisy is readily identified because it lacks ray flowers. It is common in dry, rocky areas including Devil's Garden and Lava Beds NM.

ASTERACEAE
Erigeron compositus
(Cutleaf Daisy)

Characteristics: Glandular, hairy, compact perennial 2-4 in. tall. Leaves are small, broad, and 1-3 times ternately divided. Flower heads are about ½-¾ in. wide, with 20-60 narrow, white or pink to blue rays, and yellow disk flowers. Flower heads are single on nearly leafless stems. Flowers June-Aug.

Habitat: Rock crevices and talus at high elevation.

Notes: This small daisy typically has white rays, but can also be discoid. It occurs at Crater Lake NP and on Gearhart Mt. In comparison, dwarf hulsea has yellow rays and pinnately lobed leaves.

ASTERACEAE
Erigeron divergens
(Spreading Fleabane)

Characteristics: Annual or biennial from a taproot, branched above the middle and up to 18 in. tall. Plants have short spreading hairs on the stems and leaves, and glandular hairs in the inflorescence. Basal leaves are obovate and up to 1 in. long, becoming smaller up the stem. Flower heads are about ¾ in. wide, with 75-150 narrow white, pink or purple rays and very small yellow disk flowers. Flowers June-Aug.

Habitat: Shrublands, and juniper and ponderosa pine woodlands.

Notes: Can be identified by the numerous narrow rays, small disk flowers, and spreading hairs.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Erigeron elegantulus
(Elegant Daisy)

Characteristics: Compact perennial 2-4 in. tall. Leaves are mostly basal, ½-2 in. long, and linear to thread-like. Flower heads are about ¾ in. wide, with 15-25 narrow blue rays and yellow disk flowers. Flower heads are single on unbranched stems. Flowers July-Aug.

Habitat: Found at high elevations in open pumice flats and dry subalpine meadows.

Notes: A colorful little fleabane which is found at Cloud Cap and Skull Head at Crater Lake NP.

ASTERACEAE
Erigeron filifolius
(Threadleaf Daisy)

Characteristics: Gray-green perennial to about 1 ft. tall, with multiple stems from a taproot. Leaves are mostly at the base, 1-3 in. long, and thread-like. Flower heads are about ½ in. wide, with 20-50 narrow, blue (white to pink) rays, and yellow disk flowers. Flower heads are usually 1-4 on branched stems. Flowers May-July.

Habitat: Dry, open sites at low elevation, often disturbed areas with shallow soils.

Notes: The narrow leaves and narrow blue rays identify this species.

ASTERACEAE
Erigeron inornatus
(Rayless Daisy)

Characteristics: Taprooted, mostly glabrous, branched perennial 1-3 ft. tall, with leafy stems. Leaves are linear to oblong and up to 2 in. long. The rayless flower heads are yellow and about ½ in. across, arranged in flat-topped panicles. Flowers June-Aug.

Habitat: Juniper and pine woodlands to openings in mixed conifer forest.

Notes: *Erigeron* and *Aster* are similar genera, and many species of both occur in the Klamath Basin. Erigerons tend to flower earlier, have short triangular style tips, and have narrow, equal, overlapping phyllaries.

ASTERACEAE
Erigeron linearis
(Yellow Desert Daisy)

Characteristics: Compact perennial up to 8 in. tall. Leaves are 1-3 in. long, crowded at the base, and linear to thread-like. The base of the lower leaves is often hardened and enlarged. Flower heads are about ¾ in. wide, with 15-45 yellow rays and yellow disk flowers. Flower heads are single on unbranched stems. Flowers June-Aug.

Habitat: Scablands and other rocky shrublands.

Notes: This attractive species is found at Devil's Garden, but is more abundant farther east and is common in low sagebrush habitats in Lake County.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Erigeron peregrinus
(Subalpine Daisy)

Characteristics: Perennial 1-2 ft. tall from a rhizome. Leaves are oblanceolate and up to 8 in. long at the base, reduced and sessile on the stem. Flower heads are about 1½ in. wide, with 30-80 blue to purple rays and yellow disk flowers. Phyllaries are long, spreading, and glandular. Flower heads are usually single at the ends of long thin stems. Flowers July-Sept.

Habitat: Moist meadows, streamsides, and forest openings at mid to high elevations.

Notes: This species is our largest daisy. It is abundant at Castle Crest Wildflower Garden in Crater Lake NP and can be seen along roadsides in the Cold Springs area.

ASTERACEAE
Eriophyllum lanatum
(Woolly Sunflower, Oregon Sunshine)

Characteristics: Branched, gray-woolly, sometimes aromatic, perennial up to 1 ft. tall, somewhat woody at the base. Leaves are small, alternate, entire to variously lobed, and mostly basal. Flower heads are about ¾ in. wide, with 10-15 yellow rays and yellow disk flowers. Flowers June-Aug.

Habitat: Open, often rocky sites, at low to upper elevations.

Notes: A variable species widely distributed in sunny dry habitats throughout our area. It does well in a wildflower garden and is easily started from seed. *Eriophyllum* means "woolly leaf."

ASTERACEAE
Euthamia occidentalis
(Western Goldenrod)

Characteristics: Branched perennial up to 2½ ft. tall, with multiple stems growing from a rhizome. Leaves are up to 4 in. long, numerous, alternate, linear, and pointed. Flower heads are small, with 15-25 narrow yellow rays and few yellow disk flowers. Flower heads are numerous in branched inflorescences. Flowers Aug- Sept.

Habitat: Edges of marshes and ditches at low elevations. Common around Klamath Falls.

Notes: Leaves are narrower and the inflorescence is longer and more leafy than in Canada goldenrod. This attractive plant would be suitable for moist native gardens and in wetland restoration.

ASTERACEAE
Gnaphalium palustre
(Cudweed)

Characteristics: Branched annual 1-6 in. tall, covered with dense gray woolly hairs. Leaves are oblong and ½-1 in. long. Flower heads are in clusters at the ends of the branches and in the leaf axils. Heads are tiny (⅛ in. long), yellowish-brown, and often obscured by the woolly hairs. Flowers July-Aug.

Habitat: Places with bare soil that are wet in the spring and dry out later in the summer.

Notes: Sometimes confused with turkey mullein, which has broader leaves and lacks long woolly hairs. At first glance, the tiny obscure flower heads make it hard to recognize this species is in the aster family.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Helenium bigelovii
(Sneezeweed)

Characteristics: Perennial up to 3 ft. tall from fibrous roots, often growing in clumps or patches. Leaves are numerous, alternate, lanceolate, and entire, with winged petioles that extend down the stem. Flower heads are 1-few per stalk. Flower heads have 10-20 wedge-shaped yellow rays with 3 lobes. Disk flowers are numerous, forming a yellow hemisphere about 1 in. wide. Flowers July-Sept.

Habitat: Moist meadows, springs, and streamsides.

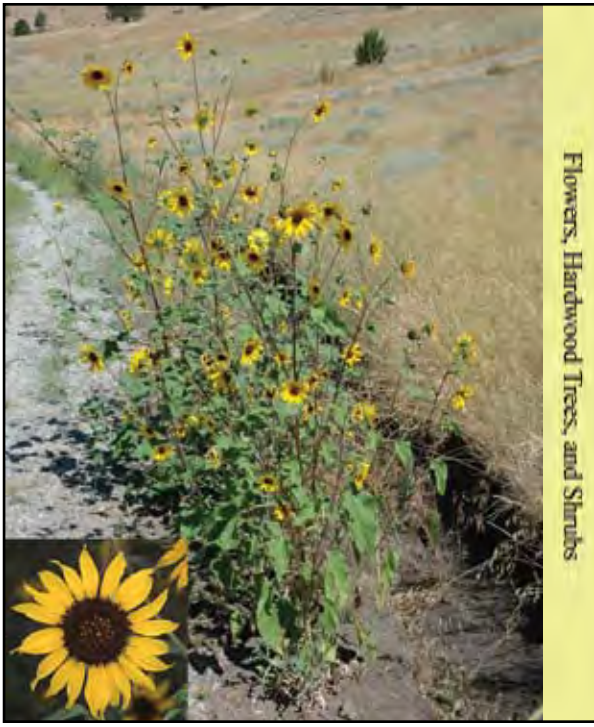
Notes: Sneezeweed can be identified by the rounded flower heads with three-lobed rays. This species occurs near the Cold Springs Trailhead.

ASTERACEAE
Helianthus annuus
(Common Sunflower)

Characteristics: Coarse, branched annual up to 10 ft. tall with rough hairs. Leaves are ovate to heart shaped. Flower heads are about 2 in. wide with bright yellow ray flowers and numerous dark reddish-brown disk flowers. Seeds are similar, but smaller than commercial sunflowers. Flowers Aug-Sept.

Habitat: Roadsides and other disturbed areas at low elevation.

Notes: Easy to grow from seed. Common sunflower is native to North America, but may not have originally occurred in our area. H. annuus was bred and crossed with other sunflowers to produce crop varieties.



ASTERACEAE
Hieracium albiflorum
(White-flowered Hawkweed)

Characteristics: Perennial up to 2 ft. tall with milky sap. Leaves are 2-6 in. long, oblong, mostly near the base, and entire to wavy margined with long hairs. Flower heads are ligulate with 10-30 white, strap-like flowers. Flower heads are several in branched clusters at the top of the stem. Flowers June-Aug.

Habitat: Open ponderosa pine and mixed conifer forest, and rocky slopes at upper elevations. Most common under white fir.

Notes: Similar to western hawkweed and often found in the same areas, but is less hairy and has white instead of yellow flowers. Both species would probably do well in a native plant garden started from seed.

ASTERACEAE
Hieracium scouleri
(Western Hawkweed)

Characteristics: Perennial up to 2 ft. tall with milky sap. Leaves are mostly basal, 2-8 in. long, lanceolate, entire, covered with long, soft hairs, and sometimes have a purple tint. Flower heads are ligulate with 15-50 yellow, strap-like flowers. Flower heads are several in branched clusters at the top of the stem. Flowers June-Aug.

Habitat: Open ponderosa pine and mixed conifer forest, and rocky slopes at upper elevations.

Notes: The name hawkweed comes from an ancient Greek belief that hawks cleared their eyes with the sap. Species of hawksbeard (*Crepis*) also have milky sap and yellow flowers, but the leaves are generally pinnately lobed.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Hulsea nana
(Dwarf Hulsea)

Characteristics: Low-growing, glandular, hairy, and sometimes aromatic perennial up to 6 in. tall. Leaves are at the base, numerous, about 1-1½ in. long, narrow, and pinnately lobed or toothed. Flower heads are about 1½ in. wide, with 12-30 yellow rays and yellow disk flowers. Flowers are single on leafless stalks. Flowers July-Sept.

Habitat: Cinder, talus, or pumice soils at mid to upper elevations.

Notes: This is a distinctive and unusual plant with relatively large flower heads for its small size. It occurs at Crater Lake NP, Cinder Butte, and Lava Beds NM.

ASTERACEAE
Lactuca serriola
(Prickly Lettuce)

Characteristics: Biennial up to 4 ft. tall with milky sap. Leaves are up to 1 ft. long, bluish-green, alternate, pinnately lobed, and prickly toothed, with prickles also on the underside of the midrib. Leaves are oriented with the blade up and down. Flower heads are about ¼ in. wide and ligulate with 13-27 yellow, strap-like flowers. Flower heads are in open, branched panicles. Flowers July-Sept.

Habitat: Found in disturbed habitats at low to mid elevations.

Notes: Prickly lettuce is one of our most common weeds. The plumed seeds are readily dispersed by the wind. The genus *Lactuca* is named for its milky sap and includes cultivated lettuce.

ASTERACEAE
Layia glandulosa
(Layia)

Characteristics: Glandular, slender, branched annual up to 1 ft. tall. Leaves are ½-2½ in. long, sessile, alternate, and linear with few teeth. Flower heads are about ½-1 in. wide with 3-14 broad, white, 3-lobed rays, and yellow disk flowers. Flowers May-June.

Habitat: Shrublands, scablands, and open rocky habitats at low elevations.

Notes: Layia occurs at the Lava Beds NM, Devil's Garden, and similar habitats. It can be recognized by the broad, white, 3-lobed rays and yellow disk.

ASTERACEAE
Leucanthemum vulgare
(Oxeye Daisy)

Characteristics: Rhizomatous perennial 1-2 ft. tall with multiple stems, sometimes smelling of sage. Basal leaves are dark green, and broadly or narrowly spoon shaped, with lobes or teeth and long petioles. Stem leaves are smaller and sessile. Flower heads have about 20 white rays up to 1 in. long, and numerous yellow disk flowers. Flowers July-Sept.

Habitat: Pastures, roadsides, clearcuts, and disturbed riparian areas.

Notes: Oxeye daisy is an introduced species from Europe that likely escaped from gardens and is now well established throughout the West. It can be invasive and is listed as a noxious weed in some states.

ASTERACEAE
Machaeranthera canescens
(Hoary Aster)

Characteristics: Branched, bushy perennial up to 2 ft. tall, with fine gray hairs and glands. Leaves are 1-4 in. long, alternate, linear to oblanceolate, and entire to toothed with small spiny tips. Flower heads are ½ in. wide, with 8-15 purple to bluish rays and yellow disk flowers. Phyllaries are often glandular, with pointed spreading tips. Flowers July-Oct.

Habitat: Shrublands, scablands, and open rocky habitats in ponderosa pine forest at low to mid elevations.

Notes: Hoary aster occurs at Lava Beds NM, Devil's Garden, and similar areas. It can be grown from seed in a native plant garden. *Machaeranthera canescens var. shastensis* often lacks ray flowers.

ASTERACEAE
Madia glomerata
(Mountain Tarweed)

Characteristics: Unbranched slender annual up to about 12 in. tall, glandular and foul smelling. Leaves are alternate, linear, and up to 3 in. long. Flower heads are spindle shaped with 0-3 tiny, yellow, 3-lobed rays and few yellow disk flowers. Flower heads are in dense terminal clusters. Flowers July-Sept.

Habitat: Widespread in meadows, shrublands, roadsides, and open rocky habitats at low to mid elevations.

Notes: The phyllaries exude a tarry resin giving the plant its common name. Several other tarweed species occur in the basin. *Madia minima* is a tiny species often found in pumice soils.

ASTERACEAE
Matricaria discoidea
(Pineapple Weed)

Characteristics: Branched leafy annual up to 12 in. tall. The bright green leaves are 1-3 times pinnately compound and feathery. The small flower heads are rounded-conical with yellow disk flowers and no rays. Fruits are single seeds with a small crown on top. Flowers June-July.

Habitat: Disturbed sites and waste areas, including roadsides, parking lots, and sidewalk cracks.

Notes: This non-native weed has a pleasant pineapple smell. The species is also known as wild chamomile and the dried flowers are used to make a tea.

ASTERACEAE
Raillardella argentea
(Silky Raillardella)

Characteristics: Low unbranched perennial up to 4 in. tall from a spreading rhizome. Leaves are narrow, oblanceolate, basal, 1-4 in. long, and covered with dense silvery hairs on both sides. Flower heads are rayless with 10-20 yellow disk flowers that have long stigmas forked at the tip. Flower heads are single on 2-6 in. tall, glandular, sticky stems. Flowers July-Sept.

Habitat: Subalpine or alpine meadows and open rocky slopes.

Notes: Silky raillardella is common at Crater Lake NP, occurring at The Watchman, Llao Rock, Garfield Peak, and along the Mt. Scott Trail. The silvery hairs that make this plant distinctive likely protect it from the intense sunlight present at high elevations.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Rudbeckia occidentalis var. occidentalis
(Western Coneflower)

Characteristics: Rhizomatous perennial 2-4 ft. tall. Leaves are 4-10 in. long, broadly elliptic or ovate, and entire or coarsely toothed. Flower heads are cone shaped and rayless, with numerous dark purple disk flowers. Flower heads are up to 2 in. long in fruit. Flowers July-Sept.

Habitat: Springs, seeps, and streamsides in the mountains.

Notes: This species is related to black-eyed susan (*Rudbeckia hirta*), a popular ornamental native to the midwest.

ASTERACEAE
Senecio canus
(Woolly Butterweed)

Characteristics: Perennial 6-12 in. tall covered with felty gray hairs. Basal leaves are 1-2 in. long, lanceolate to ovate, and mostly entire. Stem leaves are alternate and reduced. Flower heads are about 1 in. wide, with 8-13 yellow rays and yellow disk flowers. Flower heads are several per stem in a loose cluster. Flowers June-July.

Habitat: Rocky or pumice soils at all elevations.

Notes: Common at Devil's Garden, Lava Beds NM, and Crater Lake NP. The bright yellow flower heads and felty leaves help identify this species.

ASTERACEAE
Senecio integerrimus
(Tower Butterweed)

Characteristics: Perennial up to 2 ft. tall. Basal leaves have petioles and are lanceolate to ovate, tapered at the base, and entire to toothed, usually with cobwebby hairs when young. Stem leaves are alternate, reduced, and lanceolate, becoming sessile. Flower heads are about 1 in. wide with 8-13 yellow rays and yellow disk flowers. Flower heads are numerous in branched terminal clusters. Flowers May-July.

Habitat: Shrublands, juniper and pine woodlands, and forest openings.

Notes: This species grows in dry habitats and is abundant throughout our area, flowering early in the summer.

ASTERACEAE
Senecio pseudaureus
(Streambank Butterweed)

Characteristics: Perennial up to 2 ft. tall. Basal leaves are lanceolate to ovate, up to 4 in. long, and toothed, with long, thin petioles, and usually heart-shaped bases. Leaves are reduced up the stem, becoming sessile and variously toothed or lobed. Flower heads have 8-13 yellow rays and yellow disk flowers. Flower heads are several in flat-topped clusters. Flowers June-Aug.

Habitat: Wet meadows, streamsides, springs, and moist open forest. More common in the northern part of the basin.

Notes: Sometimes found with arrowleaf groundsel. Other *Senecio* species occur in the basin. Water ragwort, *S. hydrophilus*, is a stout, glaucous plant with thick leaves that grows in wetlands.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Senecio triangularis
(Arrowleaf Groundsel)

Characteristics: Perennial up to 4 ft. tall with leafy stems. Leaves are alternate, triangular, and toothed, with long petioles near the base, becoming shorter up the stem. Flower heads have 5-8 yellow rays and yellow disk flowers. Flower heads are several per stem in flat-topped clusters. Flowers July-Sept.

Habitat: Widespread. Moist mountain meadows, seeps, springs, and along streams.

Notes: *Senecio* species have a cup-shaped or cylindrical involucre with a single layer of green equal-length phyllaries, often tipped with black.

ASTERACEAE
Solidago canadensis
(Canada Goldenrod)

Characteristics: Perennial 2-3 ft. tall from a rhizome, usually with multiple leafy stems. Leaves are alternate, lancolate, entire to toothed, sessile, longest at mid stem, and often withered toward the base. Flower heads are small, with 10-17 yellow rays and yellow disk flowers. Flower heads are numerous in terminal panicles with erect to arching branches. Flowers Aug-Sept.

Habitat: Open moist forest, streamsides, and meadows at low to mid-elevations.

Notes: Canada goldenrod is a familiar and welcome sight in late summer and fall in moist habitats in our area. It is easily grown from seed and adapts well to native plant gardens. It has potential for use in wetland restoration.

ASTERACEAE
Stephanomeria lactucina
(Wirelettuce)

Characteristics: Perennial from a rhizome 4-12 in. tall and glabrous, with milky sap. Leaves are linear and few toothed, 1-3 in. long. Flower heads are about ½ in. wide with 7-10 pink ligulate flowers. Achenes have white plumose bristles. Flowers July-Aug.

Habitat: Openings in ponderosa pine and mixed conifer forest.

Notes: Named for the wiry stems with sparse leaves. *S. tenuifolia* is larger and more branched, with thread-like leaves and heads with 5 ligulate flowers.

ASTERACEAE
Tetradymia canescens
(Gray Horsebrush)

Characteristics: Shrub with felty gray hairs 2-4-ft. tall. Leaves are ½-1 in. long, linear to oblanceolate, and entire Flower heads have 4 relatively large yellow disk flowers, and a tall involucre with 4 woody bracts. Flower heads are numerous in flat-topped clusters. Flowers July-Aug.

Habitat: Shrublands and juniper woodlands.

Notes: With its conspicuous yellow flower heads and grayish color, this shrub resembles rubber rabbitbrush. Look for the shorter leaves and 4 woody bracts on the involucre. Horsebrush grows on Hogback Mt., at Modoc Rim, and near the cinder cones at Lava Beds NM.

Flowers, Hardwood Trees, and Shrubs

ASTERACEAE
Tragopogon dubius
(Yellow Salsify, Goatsbeard)

Characteristics: Taprooted biennial up to 3 ft. tall, with milky sap and stout, hollow, leafy stems. Leaves are alternate, up to 12 in. long, linear, and entire, tapering to a point. Flower heads are ligulate and about 2 in. wide with numerous pale yellow, strap-like flowers, and long, spreading, green phyllaries. Achenes have plumose bristles, and the large fuzzy flower heads are conspicuous in fruit. Flowers June-Aug.

Habitat: Primarily disturbed sites, low to mid elevations.

Notes: Salsifys were introduced from Europe and can be used as root vegetables. The purple-flowered species *T. porrifolius*, also called oyster plant, is reportedly better tasting.

ASTERACEAE
Wyethia mollis
(Woolly Mule's Ears)

Characteristics: Perennial up to 4 ft. tall and 4 ft. wide, with multiple stems from a large woody taproot, covered with dense, grayish-white, felt-like hairs. Leaves are up to 1½ ft. long, elliptic to ovate, and entire with long petioles. Flower heads are 3-4 in. wide and sunflower-like with 8-15 long rays. Flower heads are multiple on leafy stems. Flowers May-June.

Habitat: Juniper woodlands and open ponderosa pine and white fir forest up to 7,500 ft. elevation. Common east of Hwy 97.

Notes: Often grows in patches. Resembles balsamroot because of its large sunflower-like heads, but is distinguished by having leaves covered with a gray, felt-like mat of hairs and leafy flower stems.

BERBERIDACEAE
Berberis aquifolium
(Oregon Grape)

Characteristics: Evergreen shrub usually 1-3 ft. tall, but may grow larger. Leaves are pinnately compound with 5-9 leaflets. Leaflets are thick and leathery with sharp points along the margin, resembling holly leaves. Flowers are bright yellow with 9 sepals in 3 whorls of 3, and 6 petals in 2 whorls of 3. Fruits are edible, but sour, dark blue berries in grape-like clusters. Flowers May-June.

Habitat: Open ponderosa pine and mixed conifer forest, often rocky sites.

Notes: Popular ornamental and the State Flower of Oregon. Used medicinally and for yellow dye. Creeping Oregon grape (*B. repens*) is a low-growing trailing shrub with less prominent points on the leaflets.

Flowers, Hardwood Trees, and Shrubs

BERBERIDACEAE
Berberis nervosa
(Oregon Grape)

Characteristics: Evergreen shrub, usually less than 2 ft. tall, with leaves tufted and arching from the base like a fern. Leaves are pinnately compound with 9-19 leaflets. Leaflets are thick and leathery with sharp points along the margin. Veins are palmate. Flowers are yellow, arising in the center of the tuft of leaves. Flowers have 9 sepals in 3 whorls of 3, and 6 petals in 2 whorls of 3. Fruits are edible, but sour, dark blue berries in grape-like clusters. Flowers May-June.

Habitat: Moist mixed conifer forest, often rocky sites. More common west of Upper Klamath Lake.

Notes: Can be seen along the High Lakes Trail. Oregon grapes are sometimes placed in the genus *Mahonia*.

Flowers, Hardwood Trees, and Shrubs

BETULACEAE
Alnus incana
(Mountain Alder)

Characteristics: Shrub or tree up to 30 ft. tall. Leaves are alternate, thick, ovate, and coarsely toothed. Leaf petioles are hairy. Bark is smooth and grayish. Female flowers and fruits are produced in distinctive woody catkins that resemble tiny cones. Male flowers are in droopy catkins. Flowers in early spring.

Habitat: Streamsides and lake margins.

Notes: Important tree for riparian restoration. Roots form bacteria-containing nodules that fix nitrogen.

BETULACEAE
Betula glandulosa
(Bog Birch)

Characteristics: Shrub up to 10 ft. tall. Leaves are about 1 in. long, alternate, thick, rounded and toothed. Twigs have numerous warty glands. Bark is brown to gray. Both male and female flowers are in droopy caterpillar-like catkins. Fruits are small and winged. Flowers in early spring.

Habitat: Wetlands, streamsides, and meadow margins.

Notes: Can be identified by the small, rounded, toothed leaves. Hazelnut (*Corylus cornuta*) is also in the birch family and can be seen along Rock Creek off the Westside Road north of Rocky Point.

BORAGINACEAE
Amsinckia menziesii
(Fiddleneck)

Characteristics: Weedy, bristly, branched annual up to 3 ft. tall. Leaves are alternate and lanceolate with entire margins. Flowers are small and trumpet shaped, yellow to orange with 5 reddish marks on the inside. Flowers are arranged in coiled spikes. Fruits are small, dark colored, egg-shaped nutlets ⅛ in. long. Flowers April-July.

Habitat: Open, disturbed, dry sites.

Notes: Also called rancher's fireweed because of the sharp, irritating hairs. Contains toxic alkaloids.

BORAGINACEAE
Cryptantha intermedia
(Common Cryptantha)

Characteristics: Small bristly annual up to 16 in. tall. Leaves are narrow and alternate on the stem, with few leaves at the base. Flowers are small, white and trumpet shaped, with a yellow "eye," arranged in coiled inflorescences. Fruits are small egg-shaped nutlets, ⅛ in. long, with a groove-like scar on the inner surface. Flowers May-June.

Habitat: Shrublands and woodlands, common on dry, open sites.

Notes: A number of *Cryptantha* species occur in the area (e.g., *C. affinis*, *C. ambigua*, *C. simulans*, *C. torreyana*), which are difficult to tell apart from each other. Minute nutlet characteristics are important for identification.

Flowers, Hardwood Trees, and Shrubs

BORAGINACEAE
Hackelia californica
(California Stickseed)

Characteristics: Bristly perennial up to 3 ft. tall. Leaves are alternate and lanceolate to oblong with entire margins. Flowers are white and trumpet shaped with a white "eye." Fruits are egg-shaped nutlets ¼ in. long with barb-tipped prickles. Flowers June-July.

Habitat: Openings and roadsides in mixed conifer habitat. Common in the Cascades.

Notes: California stickseed is named for the bur-like fruits, which readily cling to clothing and fur. Look for it along the High Lakes Trail.

BORAGINACEAE
Hackelia micrantha
(Blue Stickseed)

Characteristics: Perennial, up to 3 ft. tall with few hairs on the stem. Leaves are alternate and lanceolate to oblong with entire margins. Flowers are small and blue with a white "eye." Fruits are egg-shaped nutlets ¼ in. long with a ring of barb-tipped prickles around the margin. Flowers June-July.

Habitat: Meadows, streamsides, road ditches, and open slopes in mixed conifer habitat.

Notes: The flowers of this species resemble a forget-me-not.

BORAGINACEAE
Lithospermum ruderale
(Western Puccoon)

Characteristics: Bristly perennial from a stout woody taproot 1-2 ft. tall. Leaves are narrow, and crowded. Flowers are small, yellowish-green and trumpet shaped, clustered at the ends of the leafy branches. Nutlets are ¼ in. long and look like they are made out of porcelain - grayish white, smooth, and shiny. Flowers May-June.

Habitat: Dry open woodlands and shrublands.

Notes: *Lithospermum* means stone seed. The plants potentially contain toxic alkaloids and estrogen-like compounds.

BORAGINACEAE
Mertensia ciliata
(Streamside Bluebells)

Characteristics: Perennial 1-3 ft. tall with leafy stems. Stem leaves are lanceolate and sessile; basal leaves are elliptic with long petioles. Flowers are ¾ in. long, blue to maroon, and arranged in droopy clusters. The fused part of the flower tube is about the same length as the free lobes. Fruits are wrinkled nutlets. Flowers May-July.

Habitat: Moist streamsides and meadows.

Notes: Other species of bluebell in the area grow in woodland and shrubland habitats.

Flowers, Hardwood Trees, and Shrubs

BORAGINACEAE
Mertensia oblongifolia
(Green Bluebells)

Characteristics: Perennial 12-18 in. tall. Leaves are oblong or lanceolate. Flowers are ½-¾ in. long, blue to maroon and drooping. The fused part of the flower tube is 1½ to 2 times longer than the free lobes. Fruits are wrinkled nutlets. Flowers May-June.

Habitat: Open areas in woodlands and shrublands that are moist in the spring.

Notes: Bluebells are attractive ornamentals. Long bluebells (*M. longiflora*) grows in similar habitats, but is a smaller plant with longer-tubed flowers.

BORAGINACEAE
Plagiobothyris mollis
(Popcorn Flower)

Characteristics: Small perennial with long soft hairs. Stems are lax and 2-10 in. long. Leaves are long and narrow, alternate above, often opposite near the base. Flowers are small and white with yellow "eyes," arranged in coiled inflorescences. Fruits are small egg-shaped nutlets ⅛ in. long, with a keel on the back and raised rounded scar on the inner surface. Flowers May-July.

Habitat: Drying mud flats.

Notes: Several small annual popcorn flowers occur here, which are difficult to tell from each other and from *Cryptantha* species. *P. hispidus* is especially common in pumice soils.

BRASSICACEAE
Alyssum alyssoides
(Pale Alyssum)

Characteristics: Simple or branched annual 4-8 in. tall covered with grayish hairs. Leaves are narrow and about ½-1 in. long. The 4-petaled flowers are tiny and cream to white. Fruits are rounded, hairy siliques ⅛ in. wide, with thin wings around the margins and a bulge in the center where the seeds are located. Flowers May-July.

Habitat: A non-native weed of dry disturbed areas.

Notes: The common garden annual "sweet alyssum," *Lobularia maritima*, is closely related to the genus *Alyssum*.

BRASSICACEAE
Alyssum desertorum
(Desert Alyssum)

Characteristics: Simple or branched annual 4-8 in. tall covered with grayish hairs. Leaves are narrow and about ½-1 in. long. The 4-petaled flowers are tiny and light yellow. Fruits are rounded, glabrous siliques ⅛ in. wide, with thin wings around the margins and a bulge in the center where the seeds are located. Flowers May-July.

Habitat: A non-native weed of dry disturbed areas.

Notes: *Alyssum* means "without rabies" and the plants are sometimes called "madwort," because it was once believed they could cure rabies.

Flowers, Hardwood Trees, and Shrubs

BRASSICACEAE
Arabis holboellii
(Holboell's Rockcress)

Characteristics: Biennial to perennial, somewhat woody at the base. Stems are upright and 1-3 ft. tall. Toothed leaves are tufted at the base; stem leaves are small, arrowhead shaped, and clasp the stem. Flowers are 4-petaled and white to purple. Fruits are long, narrow, straight to curving, and sharply bent downward. Flowers May-July.

Habitat: Forest openings, woodlands, shrublands, often rocky sites.

Notes: Many species of *Arabis* occur in this area and are distinguished primarily by the shape and angle of the pods.

BRASSICACEAE
Arabis platysperma
(Flatseed Rockcress)

Characteristics: Perennial, branched and woody at the base, with several upright stems up to 12 in. tall. Leaves are mainly basal, glaucous to green, entire and oblanceolate. Flowers are 4-petaled and pink to purple or white. Fruits are flat and straight, 1-3 in. long and ¼ in. wide, pointing upward. Flowers June-Aug.

Habitat: Rocky slopes and ridges at high elevation.

Notes: "Platy" means flat, and "sperma" refers to seed. This species can be seen at Crater Lake NP.

BRASSICACEAE
Arabis sparsiflora
(Sicklepod Rockcress)

Characteristics: Perennial, branched and woody at the base. Stems are upright and 1-3 ft. tall, with small, lanceolate to oblanceolate leaves without petioles. Basal leaves are entire to toothed with petioles. Flowers are 4-petaled and pink to purple. Fruits are long, narrow, curved, and held mostly at right angles to the stem. Flowers May-July.

Habitat: Woodlands, shrublands, scablands, and rocky slopes.

Notes: Rockcresses are sold commercially and make good rock garden plants.

Flowers, Hardwood Trees, and Shrubs

BRASSICACEAE
Draba verna
(Spring Draba)

Characteristics: Annual less than 6 in. tall, generally growing in large patches. Oblong leaves are in a basal tuft. Flowers have 4 white petals divided into 2 lobes. Fruits are flat and oval shaped on branched stems. Flowers February-May.

Habitat: Shrublands, openings, and disturbed areas.

Notes: Very abundant and one of the first flowers of spring, growing in patches on bare soil. *Verna* refers to spring.

BRASSICACEAE
Idahoa scapigera
(Flatpod)

Characteristics: Annual less than 6 in. tall. Plants have a small basal tuft of oblong leaves, often lobed. The 4 petals are tiny, white, and entire. Fruits are flat and almost round. Single fruits form at the tip of unbranched stems. Flowers March-May.

Habitat: Scablands and other shrublands.

Notes: This species is often more noticeable in fruit than flower. It is generally found with spring draba.

BRASSICACEAE
Phoenicaulis cheiranthoides
(Daggerpod)

Characteristics: Taprooted perennial up to 6 in. tall from a thick woody rootcrown. Leaves are grayish, hairy, lanceolate, and clustered at the base. Flowers are pink to purple on spreading stalks. Fruits are sharp pointed, flat, dagger-like pods. Flowers March-May.

Habitat: Scablands, generally heavy soils.

Notes: One of our early spring wildflowers. Can be grown in the garden from seed.

BRASSICACEAE
Rorippa nasturtium-aquaticum
(Watercress)

Characteristics: Perennial with sprawling, succulent stems rooting at the nodes. Leaves are single and rounded, or pinnately divided into ovate to lanceolate segments. Flowers are small and white in terminal clusters. Fruits are linear, curved, and ½-1 in. long. Flowers June-Aug.

Habitat: Found in quiet flowing water, including ditches and springs.

Notes: A non-native species sometimes used as a salad green. Native species of *Rorippa* in our area are smaller, have yellow flowers, and occur in seasonally wet habitats.

BRASSICACEAE
Sisymbrium altissimum
(Tumble Mustard)

Characteristics: Annual, 1-3 ft. tall and sparsely branched. Lower leaves are large and coarsely pinnately lobed; upper leaves are smaller with narrow segments. Flowers are pale yellow with 4 petals. Fruits are linear, 2-4 in. long at right angles to the stem. Flowers June-July.

Habitat: Roadsides, burned areas, old fields, waste areas.

Notes: This non-native species is abundant on disturbed sites. After drying, plants break off or uproot and blow like tumbleweeds.

Flowers, Hardwood Trees, and Shrubs

CAMPANULACEAE
Campanula prenanthoides
(California Harebell)

Characteristics: Lax perennial, generally less than 2 ft. tall. Leaves are lanceolate, toothed and alternate with short petioles. Flowers are blue and bell shaped, with a long style that sticks out beyond the petals. Petal tips are curved backwards. Fruits are small capsules. Flowers June-July.

Habitat: Moist mixed conifer forest.

Notes: *C. scouleri* is shorter, has oval, toothed leaves with long petioles, and has pale flowers with broader petal tips.

CAMPANULACEAE
Campanula scouleri
(Scouler's Harebell)

Characteristics: Lax perennial, generally less than 12 in. tall. Leaves are ovate, toothed and alternate, with petioles as long or longer than the leaf. Flowers are white to pale blue and bell shaped, with a long style that sticks out beyond the petals. Petal tips are curved backwards. Fruits are small capsules. Flowers June-July.

Habitat: Moist mixed conifer forest.

Notes: Both species of harebell can be seen along the High Lakes Trail.

CAMPANULACEAE
Downingia bacigalupii
(Bach's Calicoflower)

Characteristics: Small branched annual less than 6 in. tall. Leaves are small and inconspicuous. Flowers are blue to purple and two-lipped, with a long, narrow inferior ovary that looks like a stalk. The lower lip is marked with a ring of white around two large yellow spots. Stamens are fused into a curved tube that extends beyond the petals. Fruits are small capsules. Flowers May-July.

Habitat: Drying meadows, mud-flats, and ditches.

Notes: *Downingia* species can be seen at Great Meadow along the High Lakes Trail.

CAMPANULACEAE
Downingia bicornuta
(Doublehorn Calicoflower)

Characteristics: Small branched annual less than 6 in. tall. Leaves are small and inconspicuous. Flowers are blue to purple and two-lipped, with a long, narrow inferior ovary that looks like a stalk. The lower lip is marked with a large white area around two small yellow spots, and two small horn-like projections. Stamens are fused into a tube that extends beyond the petals. Two twisted bristles extend from the tip of the anthers. Fruits are small capsules. Flowers May-July.

Habitat: Drying meadows, mudflats, and ditches.

Notes: Downingias are called "calico flowers" because of their bright colors.

Flowers, Hardwood Trees, and Shrubs

CAMPANULACEAE
Downingia yina
(Cascade Downingia)

Characteristics: Small branched annual less than 6 in. tall. Leaves are small and inconspicuous. Flowers are blue to purple and two-lipped, with a long, narrow inferior ovary that looks like a stalk. The lower lip is marked with a ring of white around a central yellow area. Stamens are fused into a short tube. Fruits are small capsules. Flowers May-July.

Habitat: Drying meadows, mudflats, and ditches.

Notes: Downingias are often abundant, forming carpets of blue flowers in drying swales and ditches.

CAPRIFOLIACEAE
Linnaea borealis
(Twinflower)

Characteristics: Evergreen trailing ground cover. Leaves are small, shiny, rounded, and opposite. Flowers are pink and bell shaped with 5 fused petals, nodding in pairs on nearly leafless stalks. Fruits are small capsules. Flowers July-Aug.

Habitat: Moist, shady mixed conifer forest. Can be seen along the High Lakes Trail.

Notes: Named for Carolus Linnaeus who invented the Genus-species naming system in the 1700's. Prior to Linnaeus, species were identified by long Latin descriptions. Common names are easier to learn than scientific names, but there can be multiple names for a species, or the same name for multiple species, which gets confusing!

CAPRIFOLIACEAE
Lonicera cauriana
(Sweetberry Honeysuckle)

Characteristics: Shrub up to 4 ft. tall. Leaves are opposite, up to 2 in. long, elliptical and rounded at the tip. Flowers are paired, two-lipped, tubular and yellow. Paired red to purple berries are tightly enclosed in small bracts that form a cup around them making them appear fused. Flowers June-July.

Habitat: Streamsides, wetlands, cool moist forest.

Notes: Grows along the road to the Cold Springs Trailhead with other honeysuckles, huckleberries, valerian, and loveage.

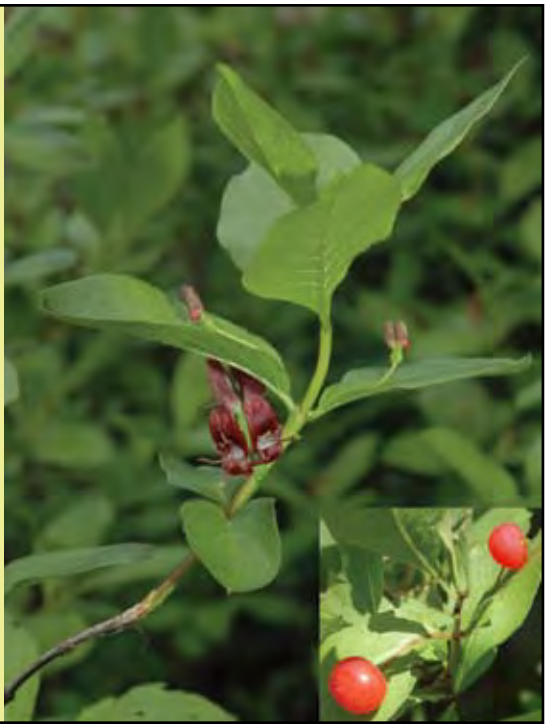
CAPRIFOLIACEAE
Lonicera ciliosa
(Orange Honeysuckle)

Characteristics: Climbing shrub up to 10 ft. tall. Leaves are opposite, 2-4 in. long, elliptical, and glabrous except for long hairs (ciliate) around the margin. The terminal pair of leaves is often fused together around the stem. Flowers are in clusters at the ends of the branches. The corolla is orange to reddish and trumpet shaped. Fruits are red berries ⅜ in. wide. Flowers June-July.

Habitat: Generally found west of the Cascade crest. In our area it occurs on the west side of Upper Klamath Lake and south of Highway 66.

Notes: An attractive ornamental pollinated by hummingbirds. Can be seen near Mare's Egg Spring.

Flowers, Hardwood Trees, and Shrubs



CAPRIFOLIACEAE
Lonicera conjugialis
(Purpleflower Honeysuckle)

Characteristics: Shrub up to 5 ft. tall. Leaves are opposite, 2-3 in. long, elliptical, rounded at the tip, and bright green. Flowers are paired, two-lipped, and dark reddish purple. The ovaries of the paired flowers are fused together. Fruits are red berries that are also fused together. Flowers June-July.

Habitat: Streamsides, wetlands, cool moist forest.

Notes: Occurs along the High Lakes Trail around Great Meadow with twinberry honeysuckle. Fruits of most honeysuckles are reported to cause gastrointestinal upset.

CAPRIFOLIACEAE
Lonicera involucrata
(Twinberry Honeysuckle)

Characteristics: Shrub up to 10 ft. tall. Leaves are up to 5 in. long, elliptical with pointed tips, dark green on top, pale beneath, and arranged opposite on the stem. Flowers are paired, two-lipped, tubular, and yellow to reddish. The species is the most distinctive in fruit, when small paired purple to black berries ¼ in. long are surrounded by large dark red bracts. Flowers June-July.

Habitat: Streamsides, wetlands, cool moist forest.

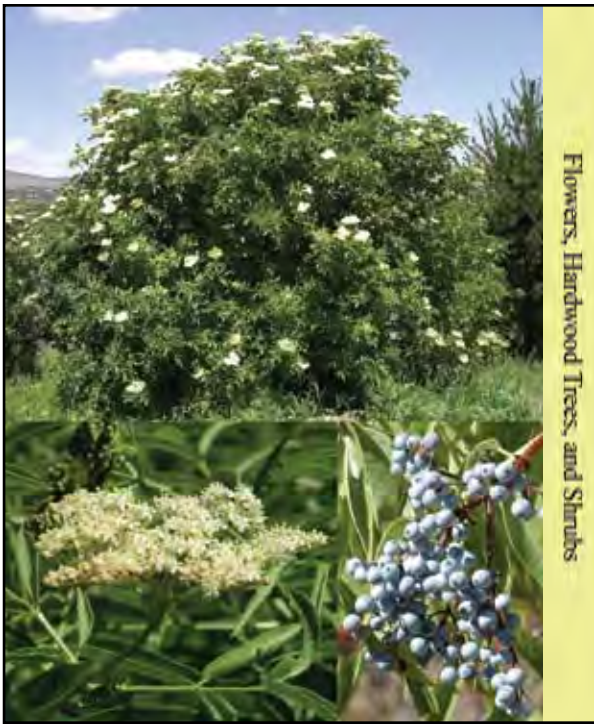
Notes: An attractive easy to grow ornamental. Berries of this species are reportedly edible but bitter, and not recommended.

CAPRIFOLIACEAE
Sambucus mexicana
(Blue Elderberry)

Characteristics: Shrub or small tree up to 15 ft. tall, generally lacking a main trunk. Leaves are opposite, large and pinnately compound, with toothed lanceolate leaflets. Stems have a spongy pith inside. Numerous small, 5-petaled, white flowers form large, flat-topped clusters. Fruits are small blue-black berries with a white waxy coating. Flowers June-July.

Habitat: Openings, woodlands, and riparian areas. Occurs along the Link River.

Notes: Berries are used for jelly and wine; however, they contain hydrocyanic acid, and may be toxic in large quantities. Removing the stems and leaves, and cooking and straining out the seeds reduces the risk.



CAPRIFOLIACEAE
Sambucus racemosa
(Red Elderberry)

Characteristics: Shrub 5-10 ft. tall, generally lacking a main trunk. Leaves are opposite, large and pinnately compound, with toothed lanceolate leaflets. Stems have a spongy pith inside. Numerous small, 5-petaled, white flowers form large pyramidal clusters. Fruits are small red berries. Flowers June-July.

Habitat: Generally at higher elevation than blue elderberry, often on open rocky slopes or in moist places.

Notes: Red elderberry contains higher concentrations of hydrocyanic acid than blue elderberry, and is generally not recommended for jelly and wine making.

Flowers, Hardwood Trees, and Shrubs

CAPRIFOLIACEAE
Symphoricarpos albus
(Common Snowberry)

Characteristics: Shrub up to 5 ft. tall, rhizomatous and spreading. Leaves are opposite, ½-1½ in. long, and elliptic. Young shoots may have larger, irregularly lobed or mitten-shaped leaves. Flowers are white to pink, hairy inside, and bell shaped, the fused tube equal in length to the free lobes. Flowers occur in clusters of 3-5 near the ends of the branches, or in the upper leaf axils. Fruits are spongy white berries that persist in the winter. Flowers May-July.

Habitat: Dry slopes or riparian areas.

Notes: Easy to grow ornamental. Leaves and berries contain saponin, and cause stomach upset if ingested in quantity.

CAPRIFOLIACEAE
Symphoricarpos mollis
(Creeping Snowberry)

Characteristics: Trailing shrub with branches rooting at the nodes. Leaves are similar to common snowberry, opposite and elliptic to irregularly lobed, or mitten shaped on new growth. Flowers are white to pink, hairy inside, and bell shaped, the fused tube equal in length to the free lobes. Flowers occur in clusters of 3-5 near the ends of the branches, or in the upper leaf axils. Fruits are spongy white berries that persist in the winter. Flowers June-July.

Habitat: Ponderosa pine and mixed conifer forest following disturbance.

Notes: Also referred to as trip vine, because of its growth habit.

CAPRIFOLIACEAE
Symphoricarpos oreophilus
(Mountain Snowberry)

Characteristics: Shrub up to 5 ft. tall, leaves and young twigs often hairy. Leaves are opposite and elliptic, ½-1½ in. long. Flowers are pink and bell shaped, the fused tube longer than the free lobes. The inside of the flower is generally hairless. Flowers occur in clusters of 3-5 near the ends of the branches, or in the upper leaf axils. Fruits are spongy white berries that persist in the winter. Flowers May-July.

Habitat: Shrublands and rocky openings.

Notes: Can be seen in the foothills around Klamath Falls.

CARYOPHYLLACEAE
Arenaria aculeata
(Needle-leaved Sandwort)

Characteristics: Mat-forming perennial. The center of the mat often dies out with age, creating a ring. Leaves are opposite, narrow, rigid, sharp pointed, and bluish-green in color. Flower stalks are 6-10 in. tall with few leaves. Flowers have 5 white petals notched at the tips and 3 styles. Sepals are broad and blunt to rounded. Fruits are dry capsules with 6 teeth. Flowers June-Aug.

Habitat: Open, rocky, gravelly sites, low to high elevation.

Notes: Beautiful sandwort, *A. capillaris*, has grass-like leaves and numerous flowering stalks. King's sandwort, *A. kingii*, has sharply pointed sepals with a single broad line on the back.

Flowers, Hardwood Trees, and Shrubs

CARYOPHYLLACEAE
Arenaria congesta
(Ballhead Sandwort)

Characteristics: Mat-forming perennial. Leaves are opposite, narrow, often thread-like, and sometimes sharp pointed. Flower stalks are leafy and 6-15 in. tall. Glandular hairs are sometimes present. Flowers have 5 white petals rounded or slightly notched at the tips, and 3 styles. Sepals are broad at the base and often sharp pointed. Flowers are in compact ball-like heads. Fruits are dry capsules with 6 teeth. Flowers June-Aug.

Habitat: Open, rocky, gravelly sites, from low to high elevation. Often found in ponderosa pine woodlands and scablands.

Notes: Distinguished from other sandworts by the compact inflorescences.

CARYOPHYLLACEAE
Pseudostellaria jamesiana
(Sticky Starwort)

Characteristics: Perennial from a thick fleshy root with weak, square stems up to 12 in. tall. Leaves are linear to narrowly lanceolate and 1-4 in. long. Flowers have five V-notched white petals and 3 styles. Upper leaves and the inflorescence are glandular hairy. Fruits are capsules with 6 teeth. Flowers June-July.

Habitat: Ponderosa pine woodlands, openings in mixed conifer forest, and high elevation rocky sites.

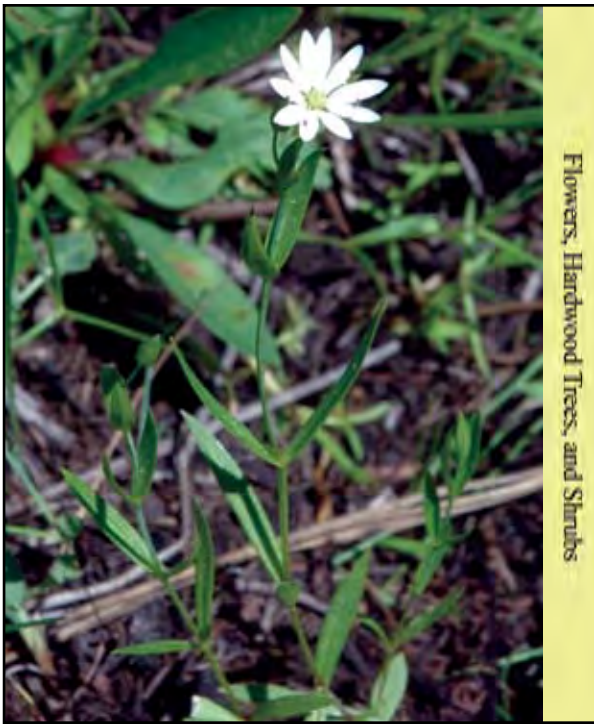
Notes: The genus *Cerastrium* is similar, but has flowers with 5 styles and capsules with 10 teeth.

CARYOPHYLLACEAE
Stellaria longipes
(Long-stalked Starwort)

Characteristics: Lax perennial with slender square stems up to 12 in. long. Leaves are opposite and narrowly lanceolate. Flowers have 5 white petals divided into 2 lobes about ½ their length and 3 styles. Fruits are capsules with 6 teeth. Flowers June-July.

Habitat: Common in mountain meadows and openings along streams.

Notes: Common chickweed, *Stellaria media*, is a trailing annual weed with ovate leaves.



CELASTRACEAE
Paxistima myrsinites
(Oregon Boxwood)

Characteristics: Evergreen shrub 1-5 ft. tall. Leaves are small, opposite, and ovate or oblong with a tapered base and tiny teeth. Flowers are small, flat, fleshy, and inconspicuous, located in the axils of the leaves. Flowers have 4 maroon colored petals. Fruits are small, 2-valved capsules. Flowers June-July.

Habitat: Common in mixed conifer forest.

Notes: Boxwood is often grown as an ornamental. It can be seen along the High Lakes Trail.

Flowers, Hardwood Trees, and Shrubs

CHENOPODIACEAE
Salsola tragus
(Russian Thistle)

Characteristics: Compact, rounded, branched annual, usually less than 3 ft. tall, appearing stiff and shrub-like. Leaves are of two types, long and thread-like, or short, scale-like and spine tipped. Stems are reddish striped. Tiny green flowers are found in the leaf axils. Fruits are small, 1-seeded, and winged. Flowers June-July.

Habitat: Dry disturbed areas, roadsides and pastures. Very common around agricultural lands.

Notes: Also known as tumbleweeds, these troublesome non-native plants break off when dry and blow long distances, dispersing seed.

CHENOPODIACEAE
Sarcobatus vermiculatus
(Greasewood)

Characteristics: Shrub up to 7 ft. tall. Branches have white bark, and are rigid and spine tipped. Leaves are linear, rounded, and fleshy. Male flowers have no petals or sepals and occur in cone-like spikes above the small cup-shaped female flowers. Fruits are small, 1-seeded, and winged. Flowers July-Aug.

Habitat: Alkaline flats. Mostly found south of Klamath Falls.

Notes: Contains calcium oxalate and is poisonous to sheep and cattle if consumed in large amounts.

CORNACEAE
Cornus canadensis
(Bunchberry)

Characteristics: Low-growing perennial from a rhizome. Leaves are 1-3 in. long and elliptic with curved veins, occurring in whorls of 4-6 on short upright stalks. Flowers are small and greenish-white, densely clustered above 4 showy white bracts that look like petals. Fruits are bright red berries about ¼ in. long. Flowers May-June.

Habitat: Mixed conifer riparian areas, often with Engelmann spruce. More common west of the Cascade crest.

Notes: Can be seen north of Dry Creek near Camp McLoughlin at Lake of the Woods and at Blue Springs south of the Sevenmile Guard Station.

CORNACEAE
Cornus sericea
(Red-osier Dogwood)

Characteristics: Shrub up to 12 ft. tall. Leaves are elliptic, tapered at both ends, bright green, and opposite with curved veins. Stems are red, giving the species its name. Flowers are small and white with 4 petals, occurring in flat-topped clusters without showy bracts. Fruits are white-bluish drupes. Flowers June-July.

Habitat: Streamsides and margins of wet meadows and lakes.

Notes: Easy to grow ornamental. Fruits may be toxic if eaten in quantity. Pacific dogwood, *C. nuttallii*, a larger shrub or small tree with showy petal-like white bracts, is generally absent from our area.

Flowers, Hardwood Trees, and Shrubs

CRASSULACEAE
Sedum lanceolatum
(Lance-leaved Sedum)

Characteristics: Rhizomatous perennial up to 8 in. tall. Leaves are fleshy, flattened or rounded in cross-section, and linear to lanceolate. Flowers are yellow and showy with 5 petals and 5 pistils. Fruits are 5 follicles with pointed tips. Flowers June-July.

Habitat: Rocky outcrops, talus, and gravelly sites in full sun.

Notes: In comparison, wormleaf stonecrop, *S. stenopetalum*, has long, linear leaves with a keel on the upper surface and numerous sterile shoots.

CRASSULACEAE
Sedum oregonense
(Oregon Stonecrop)

Characteristics: Succulent, rhizomatous perennial up to 8 in. tall, bluish-green in color. Basal leaves are flat and broadest near the tip, forming crowded rosettes. Stem leaves are smaller and sparse. Flowers are yellow and showy with 5 petals joined above the base and 5 pistils. Fruits are 5 follicles with pointed tips. Flowers June-July.

Habitat: Rocky outcrops in full sun, often at high elevations in the east Cascades.

Notes: Sedums are favorite rock garden plants. Another species that occurs in the northwest, *S. spathulifolium*, is often sold horticulturally.

DROSERACEAE
Drosera anglica
(English Sundew)

Characteristics: Small perennial with leaves in a rosette. Leaves have long petioles and are obovate, reddish, and covered with large stalked glands. Flowers are in 1-sided racemes on leafless stalks 6-8 in. tall. Flowers have 5 white petals, 5 stamens, and 4-5 pistils that are deeply divided in two. Fruits are capsules. Flowers June-Aug.

Habitat: Wetlands, often with spikerushes and mosses.

Notes: Named for the large stalked glands that resemble drops of dew.

DROSERACEAE
Drosera rotundifolia
(Roundleaf Sundew)

Characteristics: Small perennial with leaves in a rosette. Leaves have long petioles and are rounded, reddish, and covered with large stalked glands. Flowers are in 1-sided racemes on leafless stalks 6-8 in. tall. Flowers have 5 white petals, 5 stamens, and 4-5 pistils that are deeply divided in two. Fruits are capsules. Flowers June-Aug.

Habitat: Wetlands, often with spikerushes and mosses.

Notes: Sundews are carnivorous plants. The sticky leaves trap small insects, then fold around their prey and digest them with enzymes.

Flowers, Hardwood Trees, and Shrubs

ERICACEAE
Arctostaphylos nevadensis
(Pinemat Manzanita)

Characteristics: Low-growing spreading evergreen shrub up to 1 ft. tall. Leaves are about 1 in. long, and ovate to obovate with a small point at the end. Flowers are white to pink and urn shaped. Fruits are reddish-brown, berry-like drupes about ¼ in. wide. Flowers May-June.

Habitat: Common in mixed conifer and subalpine forests, often in areas with shallow, rocky soil.

Notes: Distinguished from bearberry, *A. uva-ursi*, by the points on the leaves, duller colored fruits, and rocky habitats.

ERICACEAE
Arctostaphylos patula
(Greenleaf Manzanita)

Characteristics: Rounded evergreen shrub up to 7 ft. tall with shreddy reddish-brown bark. Leaves are 1-1½ in. long, ovate, and bright yellow-green. Flowers are pink and urn shaped. Fruits are reddish-brown, berry-like drupes about ¼ in. wide. Flowers April-May.

Habitat: Common along roadsides and in disturbed sites in mixed conifer forests.

Notes: Attractive ornamental. Stems and branches are used in decorative wood crafts. Both seed germination and resprouting occur after fire.

ERICACEAE
Arctostaphylos uva-ursi
(Bearberry, Kinnikinnick)

Characteristics: Low-growing mat-forming evergreen shrub up to 6 in. tall. Leaves are about 1 in. long, and ovate to obovate. Flowers are white to pink and urn shaped. Fruits are bright red, berry-like drupes about ¼ in. wide. Flowers May-June.

Habitat: Generally in moist lodgepole pine basins and around wet meadows. More common in pumice areas.

Notes: Bearberry has a wide distribution and also occurs in Europe and Asia. It is a popular ornamental ground cover and has a long history of medicinal use.

ERICACEAE
Chimaphila menziesii
(Little Prince's Pine)

Characteristics: Evergreen rhizomatous perennial up to 6 in. tall. Leaves are shiny dark green to bluish-green, 1-2 in. long, whorled, and elliptic with sharp serrations. The 1-3 flowers are waxy, white to pink, ½ in. wide, and located at the top of leafless stalks. Fruits are dry, reddish-brown, 5-parted capsules. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, tolerant of shade.

Notes: Similar to prince's pine and often found in the same habitats.

Flowers, Hardwood Trees, and Shrubs

ERICACEAE
Chimaphila umbellata
(Prince's Pine)

Characteristics: Evergreen rhizomatous perennial up to 1 ft. tall. The leathery leaves are whorled, lanceolate, 2-3 in. long, toothed, shiny dark green above, and pale green below. The 5-15 flowers are waxy, pink to rose colored, ½ in. wide, and located at the top of leafless stalks. Fruits are dry, reddish, 5-parted capsules. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, tolerant of shade.

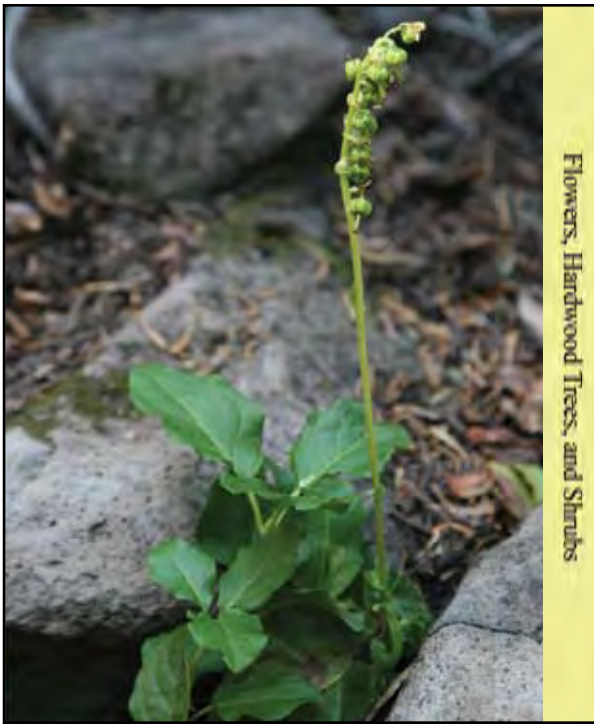
Notes: This species also occurs in Europe and Asia and is used medicinally and as a flavoring in soft drinks.

ERICACEAE
Orthilia secunda
(One-sided Wintergreen)

Characteristics: Evergreen rhizomatous perennial less than 1 ft. tall. Leaves are mostly on the stem, ovate, and dark green with fine teeth along the margins. The five-petaled flowers are greenish-white and nod on one side of the flower stalk. Styles are long and straight. Fruits are rounded capsules. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, tolerant of shade.

Notes: Easy to tell from the other wintergreens, because of the leafy stems and one-sided flower stalks. Formerly called *Pyrola secunda*.

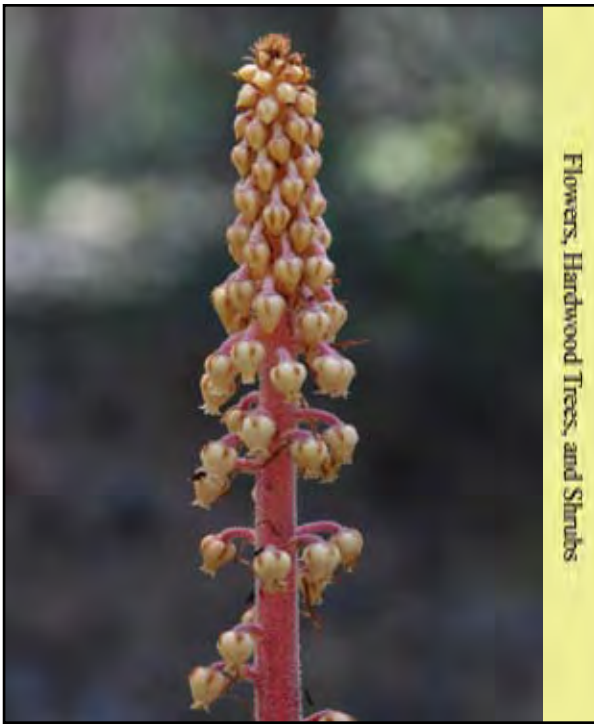


ERICACEAE
Pterospora andromedea
(Pinedrops)

Characteristics: Erect, red-brown, glandular hairy perennial up to 3 ft. tall. The unbranched stems are often clustered. Leaves are reduced to small scales. Individual flowers hang down on short stalks scattered along the stem, and are urn shaped with 5 yellowish petals and 5 red sepals. Fruits are dry reddish capsules. Flowers June-July.

Habitat: Ponderosa pine and mixed conifer forest.

Notes: Non-green plants like pinedrops lack chlorophyll and the ability to make their own food. Instead, they get sugars from other plants (often trees) via mycorrhizal fungi.



ERICACEAE
Pyrola asarifolia
(Bog Wintergreen, Pink Wintergreen)

Characteristics: Evergreen rhizomatous perennial. Leaves are mostly basal, dark green on top, purplish beneath, rounded, and 1½ -2½ in. wide. Cup-shaped, 5-petaled, pink flowers nod on leafless stalks above the leaves. Styles are long and curve downward. Fruits are 5-parted capsules. Flowers June-July.

Habitat: Moist areas, streamsides, wetlands.

Notes: Can be seen along Annie Creek by the Sno-Park. This is our only *Pyrola* typically found in wet habitats.

Flowers, Hardwood Trees, and Shrubs

ERICACEAE
Pyrola picta
(White-veined Wintergreen)

Characteristics: Evergreen rhizomatous perennial. Leaves are mostly basal, ovate, and dark green with white markings along the veins. Cup-shaped, 5-petaled, waxy, greenish to white flowers nod on leafless stalks above the leaves. Styles are long and curved. Fruits are 5-parted capsules. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, tolerant of shade.

Notes: Co-occurs and is often confused with rattlesnake plantain, *Goodyera oblongifolia*, when not in flower. Rattlesnake plantain has leaves with a single central white stripe and snakeskin pattern.

ERICACEAE
Vaccinium caespitosum
(Dwarf Huckleberry)

Characteristics: Spreading shrub up to 1 ft. tall. Leaves are alternate, about 1 in. long, obovate to oblanceolate, and finely toothed above the middle with gland-tipped teeth. Leaves turn bright red in the fall. Flowers are white to pink and urn shaped, 2 times as long as wide. Fruits are purplish to blue berries, about ¼ in. wide. Flowers May-June.

Habitat: Margins of wet meadows and lakes, often with other species of *Vaccinium*.

Notes: The small fruits are sweet and edible. Can be seen with big huckleberry along the High Lakes Trail.

Flowers, Hardwood Trees, and Shrubs

ERICACEAE
Vaccinium membranaceum
(Big Huckleberry, Thinleaf Huckleberry)

Characteristics: Shrub up to 3 ft. tall. The thin leaves are alternate, 1-2 in. long, ovate with a pointed tip, and finely toothed. Flowers are pink and urn shaped. Fruits are purplish to dark blue berries, about ⅓ in. wide. Flowers May-June.

Habitat: Margins of wet meadows and lakes, streamsides, and moist mixed conifer forest.

Notes: Fruits are tasty but not always abundant. Fruiting has been found to be highest in stands with northerly aspects, open canopy, and a 10-20 year delay since clearcutting or a stand-replacing wildfire.

ERICACEAE
Vaccinium parvifolium
(Red Huckleberry)

Characteristics: Shrub 3-12 ft. tall. Stems are green and strongly angled. Leaves are ½-1 in. long, alternate, ovate, and entire to serrate with a small point at the end. Flowers are urn shaped, single, and pink to greenish. Fruits are bright red berries about ⅓ in. wide. Flowers May-June.

Habitat: Streamsides and margins of wet meadows and lakes. More abundant west of the Cascade crest than in our area.

Notes: Fruits are somewhat sour. Can be seen along the Cherry Creek Trail.

Flowers, Hardwood Trees, and Shrubs

ERICACEAE
Vaccinium scoparium
(Grouse Huckleberry)

Characteristics: Shrub with numerous slender, broom-like, green branches up to 16 in. tall. The leaves are alternate, lanceolate to ovate, and less than 1 in. long. Flowers are pink and urn shaped. Fruits are bright red berries, less than ¼ in. wide. Flowers May-June.

Habitat: Subalpine forest, cold drainages and basins.

Notes: A common understory species in high elevation forests. Fruits are sweet and edible, but tiny.

ERICACEAE
Vaccinium uliginosum spp. occidentale
(Bog Blueberry)

Characteristics: Shrub up to 3 ft. tall. The thick leaves are alternate, ½-1 in. long, ovate, and glaucous with entire margins. Flowers are pink and urn shaped. Fruits are waxy blue berries, about ¼ in. wide. Flowers May-June.

Habitat: Margins of wet meadows and lakes, lodgepole pine swamps.

Notes: Can be identified by the blue-green waxy leaves. Fruits are sweet, edible, and often abundant.

EUPHORBIACEAE
Eremocarpus setigerus
(Turkey Mullein, Doveweed)

Characteristics: Prostrate grayish hairy annual that forms branched mats. Leaves are alternate, ovate, and ½-2 in. long. The separate male and female flowers are tiny and lack petals. Male flowers are located in racemes at the ends of the branches; female flowers are either beneath the male flowers or in the leaf axils. Fruits are capsules with a single seed. Flowers June-Aug.

Habitat: Dry, open, often disturbed areas.

Notes: Seeds are eaten by birds; however, the foliage is toxic to livestock.

FABACEAE
Astragalus curvicarpus
(Coiled Locoweed)

Characteristics: Grayish hairy perennial with erect to trailing, stout, leafy stems 6-16 in. tall. Leaves are 2-4 in. long, and pinnately compound, with 9-17 leaflets blunt or notched at the end. Flowers are white to pale yellow and pea-like, crowded on stalks above the leaves. Fruits are 1-1½ in. long, flattened, coiled pods that hang on thin stalks. Flowers May-June.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: Over 350 species of *Astragalus* occur in North America and some, like coiled locoweed, are poisonous. Symptoms in livestock include neurological disorders, respiratory failure, and abortions.

FABACEAE
Astragalus filipes
(Basalt Milkvetch)

Characteristics: Perennial with a cluster of erect leafy stems 1-2½ ft. tall. The leaves are pinnately compound and 2-4 in. long with 9-25 narrow leaflets. Flowers are pale yellow and pea-like on stalks above the leaves. Fruits are 1½ in. long, narrow, straight, flattened pods that hang on thread-like stalks. Flowers May-June.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: Other species with white-yellow flowers are *A. obscurus* (less than 1 ft. tall, silvery-hairy, with pods that point upwards) and *A. canadensis* (moister sites, larger leaves, reflexed flowers, and stalkless cylindric pods).

FABACEAE
Astragalus lentiginosus
(Speckled Milkvetch)

Characteristics: Perennial with erect to trailing stems up to 16 in. long, green, or sometimes with short silvery hairs. Leaves are 1-6 in. long, and pinnately compound with 11-19 leaflets. Flowers are long, pea-like, white to pinkish or purplish, and crowded on stalks shorter than the leaves. Fruits are 1 in. long inflated pods, curved and pointed at the end, and covered with reddish speckles. Flowers May-June.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: Balloon pod milkvetch, *A. whitneyi*, has inflated reddish pods that are oblong and rounded, not curved and pointed.

FABACEAE
Astragalus purshii
(Woolly-pod Milkvetch)

Characteristics: Compact, prostrate perennial covered with soft grayish hairs. The leaves are pinnately compound and 1-6 in. long with 7-19 oval leaflets. Pea-like flowers are yellowish to rose-purple. Fruits are tough, ½-1 in. long, and covered with dense woolly hairs. Flowers April-June.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: The woolly pods are sometimes referred to as "rabbit eggs." Many species in the pea family can be grown from seed. Using sandpaper or a nail file to scarify the hard seed coat often improves germination.

FABACEAE
Lathyrus nevadensis
(Peavine)

Characteristics: Trailing or climbing rhizomatous perennial 1-2 ft. tall. Leaves are pinnately compound, with 4-10 pairs of ovate leaflets and a tendril at the end. Pea-like flowers are white to rose, or purple. The style is flattened and hairy on one side. Fruits are 1-3 in. long pods. Flowers May-July.

Habitat: Open riparian forest, moist meadow edges.

Notes: Roots form bacteria-containing nodules that fix nitrogen. Seeds are poisonous. Thickleaved peavine, *L. lanszwertii*, has long, narrow leaflets.

FABACEAE
Lotus corniculatus
(Bird's Foot Trefoil)

Characteristics: Perennial usually with trailing stems rooting at the nodes. Leaves are pinnately compound with obovate leaflets ¼-¾ in. long. The lower leaflets are stipule-like. Flowers are bright yellow tinged with red, and pea-like, arranged in umbels of 3-8. Pods are up to 1½ in. long and less than ¼ in. wide. Flowers June-Aug.

Habitat: Seasonally moist disturbed areas. Can be seen near Gerber Reservoir.

Notes: A non-native weedy species that is grown for pasture, hay, and forage in some countries.

FABACEAE
Lotus crassifolius
(Big Deervetch)

Characteristics: Glabrous or hairy perennial with sprawling or erect stems up to 3 ft. tall. Leaves are pinnately compound with 5 obovate leaflets ½-1 in. long. Flowers are pea-like, greenish-yellow marked with reddish-purple, and arranged in umbels of 7-20. Pods are 1-2 in. long and about ¼ in. wide. Flowers June-Aug.

Habitat: Ponderosa pine or mixed conifer forest, often roadsides, burns, or other disturbed areas.

Notes: Straight narrow pods, flowers single or in umbels, and broad, flattened stamen filaments help distinguish the genus *Lotus*.

FABACEAE
Lotus oblongifolius
(Streamside Bird's Foot Trefoil)

Characteristics: Glabrous or hairy perennial with sprawling or erect stems up to 3 ft. tall. Leaves are pinnately compound with 3-9 elliptic leaflets ½-1 in. long. Flowers are white to yellow and pea-like, arranged in umbels of 2-6. Pods are 1-2 in. long and less than ¼ in. wide. Flowers June-Aug.

Habitat: Streamsides, meadows, open moist forest.

Notes: Can be seen in the Surveyor Mountain area.

FABACEAE
Lotus purshianus
(Spanish Clover)

Characteristics: Hairy annual with sprawling or erect stems ½-2 ft. long. Leaves are divided into 3 leaflets or single. Leaflets are ovate to lanceolate, ¼-1 in. long. Flowers are pea-like, pale yellow to cream with reddish markings, and usually single with a single bract beneath. Five of the 10 stamens have broad, flattened filaments. Pods are ½-1½ in. long and narrow, with slight constrictions between the seeds. Flowers May-Sept.

Habitat: Sandy to rocky soils in ponderosa pine and mixed conifer forests.

Notes: *L. nevadensis* is a similar sprawling perennial with 5 leaflets and small yellow flowers tinged with orange or red.

Flowers, Hardwood Trees, and Shrubs

FABACEAE
Lupinus argenteus
(Silvery Lupine)

Characteristics: Erect perennial up to 2 ft. tall, often grayish and silky-hairy, with clustered stems in a vase-like arrangement. Leaves are palmately compound with 5-9 finger-like leaflets up to 2 in. long. Pea-like flowers are white, blue and/or violet. The large central petal (banner) is generally hairy on the back. Fruits are 1 in. long hairy pods. Flowers May-July.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: Several lupines occur in the basin and can be hard to distinguish because of their similarity and variability. Silvery lupine has been reported to be toxic to cattle, horses, and sheep in some areas.

FABACEAE
Lupinus brevicaulis
(Sand Lupine)

Characteristics: Annual up to 4 in. tall. Leaves are palmately compound with 6-8 linear to oblanceolate leaflets about ½ in. long and glabrous on top. The blue-purple pea-like flowers are in dense short inflorescences above the leaves. Both flowers and fruits are about ¼ in. long. Pods are oval shaped and hairy with 1-2 seeds. Flowers June-Aug.

Habitat: Sandy soils. Can be seen around Gerber Reservoir.

Notes: Distiguished from dwarf lupine by its small size, short inflorescence, and lack of hairs on the upper leaf surface.

FABACEAE
Lupinus lepidus (aridus)
(Dwarf Lupine)

Characteristics: Perennial less than 12 in. tall, grayish and hairy. Leaves are palmately compound with 5-8 finger-like leaflets up to 1½ in. long. Pea-like flowers are white, blue and/or violet. The large central petal (banner) is glabrous on the back. Fruits are ½-¾ in. long hairy pods. Flowers May-Aug.

Habitat: Open gravelly or pumice soils at all elevations. Abundant along Hwy 97 north of Chiloquin.

Notes: Lupines form bacteria-containing root nodules that fix nitrogen, and can act as pioneer species following disturbance. Dwarf lupine was noted as an important colonizer after the eruption of Mount St. Helens.

FABACEAE
Lupinus polyphyllus
(Bigleaf Lupine)

Characteristics: Perennial up to 4 ft. tall, with 1 to several stems that are hollow at the base. Leaves are palmately compound with 5-17 finger-like leaflets up to 6 in. long. Pea-like flowers are white to blue or violet on large racemes up to 16 in. long. The large central petal (banner) is glabrous on the back. Fruits are 1-2 in. long hairy pods. Flowers June-Aug.

Habitat: Springs, streamsides, wetlands, and ditches.

Notes: This lupine is easy to identify because of its large size and preference for wet habitats. It is abundant in road ditches near Ft. Klamath.

Flowers, Hardwood Trees, and Shrubs

FABACEAE
Melilotus officinalis
(Yellow Sweetclover)

Characteristics: Biennial up to 7 ft. tall. Leaves are clover-like with 3 leaflets ½-1 in. long. Small, yellow, sweet smelling, pea-like flowers grow on slender racemes about 3-4 in. long. Fruits are small oval pods about ¼ in. long with cross ridges. Flowers June-July.

Habitat: A non-native species originally planted for hay, forage, and honey production that has spread to roadsides and waste areas.

Notes: White sweetclover, *M. albus*, is almost identical except flowers are white. Alfalfa, *Medicago sativa*, also has leaves with 3 leaflets, but pods are coiled, and the purple flowers are on short, head-like racemes.

FABACEAE
Trifolium eriocephalum
(Woolly-headed Clover)

Characteristics: Hairy perennial from a taproot with 1 to several stems 8-16 in. tall. Leaves are typically clover-like with 3 leaflets ½-1½ in. long. Small flowers with white, pink, or reddish petals are reflexed in a compact terminal head 1 in. wide. When in fruit, the heads appear woolly because of the persistent, long hairy calyx teeth. Flowers June-July.

Habitat: Moist meadows and forested riparian areas.

Notes: Clovers also produce tiny legume fruits, but the pods are often shorter than the calyx and are hard to see.

FABACEAE
Trifolium kingii var. productum
(Shasta Clover)

Characteristics: Glabrous perennial from a taproot with 1 to several stems 8-16 in. tall. Leaves have 3 leaflets ½-2 in. long and coarse teeth with tiny, spined tips. Small flowers with white to purplish petals are reflexed in compact heads 1 in. wide. The stem of the inflorescence extends above the flowers and is often branched. Flowers June-July.

Habitat: Moist meadows and forested riparian areas.

Notes: Can be distinguished from woolly-headed clover by the branched prong above the flower head and lack of hairs.

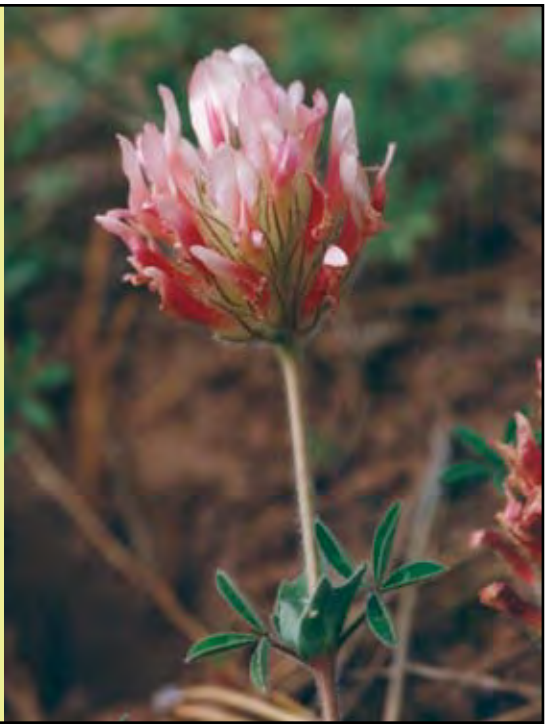
FABACEAE
Trifolium longipes
(Long-stalked Clover)

Characteristics: Erect to trailing perennial up to 12 in. tall. Leaves are typically clover-like with 3 narrow leaflets ½-1½ in. long. Small, white, or sometimes pink to purple flowers are in terminal, round compact heads. Flowers June-July.

Habitat: Moist meadows and forested riparian areas.

Notes: This common species is an important wildlife food. The flowers can be used to make tea. The non-native white clover, *T. repens*, has been introduced into some meadows. White clover is distinguished by its broad, rounded leaflets.

Flowers, Hardwood Trees, and Shrubs



FABACEAE
Trifolium macrocephalum
(Big-headed Clover)

Characteristics: Erect perennial 3-10 in. tall. Leaves are palmately compound with 5-9 broad leaflets ½-1 in. long. Small, pink to rose flowers are in large, usually single, terminal heads 1-3 in. wide. Flowers May-June.

Habitat: Scablands, sagebrush shrublands, and juniper woodlands.

Notes: Easy to identify because of the large flower heads and more than 3 leaflets per leaf.

FABACEAE
Vicia americana
(American Vetch)

Characteristics: Trailing or climbing rhizomatous perennial 1-2 ft. tall. Leaves are pinnately compound with 8-16 paired oblong to ovate leaflets and a tendril at the end. Pea-like flowers are white to rose, or purple. The style is round and hairy on all sides at the tip. Fruits are 1-1½ in. long pods. Flowers May-July.

Habitat: Open riparian forest, moist meadow edges.

Notes: American vetch differs from Sierra pea in having a thin, rounded style with hairs all the way around the tip, and in usually having smaller, more numerous leaflets. Both species grow in the same habitats.

FAGACEAE
Chrysolepis chrysophylla
(Chinquapin)

Characteristics: Evergreen shrub 3-6 ft. tall, becoming a small tree west of the Cascade crest. Leaves are 2-4 in. long, tapered to a pointed tip, dark green and leathery on top, and yellow beneath with powdery scales. The tiny whitish male flowers are on stiff, erect (not drooping) catkins. Female flowers are in clusters beneath the male flowers. Fruits are spiny 1-2 in. wide burs with small hard nuts inside. Flowers June-July.

Habitat: Mixed conifer forest and rocky openings. Common in the Cascades.

Notes: Bush chinquapin, *C. sempervirens*, is a shrub with a rounded top and leaves that are blunt or rounded at the end.

FAGACEAE
Quercus garryana
(Oregon White Oak)

Characteristics: Tree up to 60 ft. tall. Leaves are 2-5 in. long, with 5-7 main lobes rounded at the ends. Bark is grayish with thick ridges. Tiny male flowers are on drooping catkins. Female flowers are single or clustered near the ends of the branches. Fruits are acorns about 1 in. long, with the cap about ¼ the length of the fruit. The inside of the shell is smooth. Flowers April-June.

Habitat: Generally west of the Cascade crest, but extends up the Klamath River and as far east as Lakeshore Drive.

Notes: Occurs at Howard Bay and the Running Y Ranch. Trees can become infested with oak mistletoe (*Phoradendron villosum*), a parasitic plant with sticky berries that are spread by birds.

Flowers, Hardwood Trees, and Shrubs

FAGACEAE
Quercus kelloggii
(California Black Oak)

Characteristics: Tree up to 60 ft. tall. Bark is deeply furrowed and checkered, dark brown to black. Leaves are 3-7 in. long, with 5-7 main lobes tipped with bristle-like teeth. Tiny male flowers are on drooping catkins. Female flowers are single or clustered. Fruits are acorns about 1 in. long, with the cap about ½ the length of the fruit. The inside of the shell is hairy. Flowers April-June.

Habitat: Moist sites in the Klamath River Canyon, mostly downstream of JC Boyle Dam.

Notes: This species is the most widespread oak in California. It can quickly resprout after fire and is often found in groves of a single age class.

FUMARIACEAE
Dicentra formosa
(Pacific Bleeding Hearts)

Characteristics: Bluish-green perennial up to 16 in. tall. Lacey leaves are 2 times ternately compound and lobed, divided into linear or oblong segments. Pink to rose heart-shaped flowers nod on stalks above the leaves. Fruits are 1 in. long pod-like capsules with black shiny seeds. Flowers June-July.

Habitat: Riparian areas or openings in Shasta red fir forest, mostly in the Cascades.

Notes: Easy to identify when in flower, and the lacey blue-green leaves are also distinctive. Bleeding hearts are popular ornamentals.

FUMARIACEAE
Dicentra uniflora
(Steer's Head)

Characteristics: Bluish-green perennial up to 4 in. tall. Leaves are ternately compound and lobed. Flowers are single on leafless stalks. The white to pinkish flowers are shaped like a steer's head, with petals that curve backward like horns. Fruits are ½ in. long pod-like capsules with black shiny seeds. Flowers May-July.

Habitat: Rocky to gravelly well-drained soils at low to upper elevations.

Notes: This species flowers soon after snow melt.

GENTIANACEAE
Gentianopsis simplex
(Fringed Gentian)

Characteristics: Slender, usually single stemmed annual 4-8 in. tall. Stem leaves are lanceolate and spaced along the stem in 3-6 pairs. Flowers are single, terminal, and about 1 in. long. The 4 blue petals are fused halfway from the base; the free lobes have fringed margins and are spread windmill-like. Fruits are 2-parted capsules. Flowers June-Aug.

Habitat: Wet meadows.

Notes: Other blue gentians in the basin are perennials with 5 petals. Marsh gentian, *Gentiana affinis*, has more than 1 flower per stem. Newberry's gentian, *Gentiana newberryi*, is less than 5 in. tall, with a basal rosette of spoon-shaped leaves and 1 to few large flowers.

Flowers, Hardwood Trees, and Shrubs

GENTIANACEAE
Swertia albicaulis
(White-stem Frasera)

Characteristics: Perennial 1-2 ft. tall, with 1- few stems and dense panicles of flowers. Leaves are mostly basal, have white margins, and are oblanceolate up to 9 in. long. Stem leaves are smaller and opposite. Flowers are greenish-white to blue with 4 petals, sepals, and stamens, and a 2-parted style. Small scales are located between the stamens. Each petal has a single oblong nectary surrounded by a fringe of hairs. Fruits are 2-parted capsules. Flowers April-June.

Habitat: Scablands and sagebrush shrublands.

Notes: Formerly called *Frasera albicaulis*. In the spring, this species can be seen on scablands near Gerber Reservoir.

GERANIACEAE
Erodium cicutarium
(Stork's Bill, Filaree)

Characteristics: Glandular, hairy annual with trailing reddish stems up to 1 ft. long. Leaves are soft and feathery, divided into small, narrow, pointed segments. Flowers are small, 5-petaled and pink. The name stork's bill comes from the long, pointed, 5-parted fruits. Flowers April-Aug.

Habitat: Common in lawns, gardens, roadsides, and disturbed areas.

Notes: This species was introduced from Eurasia. The leaves have a parsley flavor and are edible if picked young. Stork's bill is also used for medicinal purposes.

GERANIACEAE
Geranium oreganum
(Oregon Geranium)

Characteristics: Perennial 8-24 in. tall, with yellowish glandular hairs in the inflorescence. Leaves are rounded, 2-5 in. wide and divided ¾ of their length into 5-7 irregular main lobes. Flowers are pink to red-purple. Petals are hairy around the margin only at the base. Fruits are long-pointed capsules. Flowers July-Aug.

Habitat: Moist forest and meadow edges.

Notes: Richardson's geranium, *G. richardsonii*, has purplish glandular hairs and lighter colored petals that are hairy on the inner surface for half their length.

GERANIACEAE
Geranium viscosissimum
(Sticky Purple Geranium)

Characteristics: Perennial 1-3 ft. tall with glandular stems and leaves. Leaves are rounded, 2-5 in. wide and divided more than ¾ of their length into 5 broad main segments. Flowers are pink to red-purple with purple veins. Petals are hairy for ¼ their length on the inner surface. Fruits are long-pointed capsules. Flowers June-July.

Habitat: Dry slopes, ponderosa pine woodlands, burned areas.

Notes: This species is distinguished by its large size and sticky foliage and can be seen in the Bliss Road-Switchback area. Glandular hairs are thought to help protect plants by trapping, repelling, or modifying the behavior of insect pests.

Flowers, Hardwood Trees, and Shrubs

GROSSULARIACEAE
Ribes aureum
(Golden Currant)

Characteristics: Shrub up to 10 ft. tall, with reddish stems, no spines, and few hairs. Leaves are thick, firm, 1-2 in. wide, and divided less than halfway into 3 main lobes. The flowers have a funnel-shaped tube, 5 yellow spreading sepals, and 5 small yellow to reddish petals. Flowers and fruits hang in clusters of 5-15. Fruits are red, orange, or black berries ¼ in. wide, without hairs or glands. Flowers May-June.

Habitat: Streambanks and floodplains at lower elevations.

Notes: An attractive ornamental with palatable fruits. Can be seen at the Sprague River Picnic Area east of Bly.

GROSSULARIACEAE
Ribes cereum
(Wax Currant)

Characteristics: Rounded shrub up to 6 ft. tall without spines. Young stems, leaves and inflorescences are often hairy and glandular. Leaves are rounded ½-1½ in. wide and shallowly 3-5 lobed. The flowers have a long tube, 5 white or pink spreading to reflexed sepals, and 5 small white or pink petals. Flowers and fruits are in clusters of 2-8. Fruits are red berries ⅓ in. wide, with no or few glandular hairs. Flowers May-July.

Habitat: Juniper woodlands and forest openings, occurring at a wide range of elevations.

Notes: Wax currant fruits are edible, but reportedly bitter or bland tasting.

GROSSULARIACEAE
Ribes erythrocarpum
(Crater Lake Currant)

Characteristics: Trailing spineless shrub. Leaves are about 1 in. wide and palmately lobed with 5 main divisions. Flowers are saucer shaped with 5 yellowish or pinkish petals. Fruits are bright red berries about ⅓ in. long. Flowers July-Aug.

Habitat: Shady, moist, subalpine forest.

Notes: Fruits are palatable. Foliage looks similar to trailing blackberry, but the leaves are more deeply lobed. Can be seen in the Cold Springs area, at Crater Lake NP, and along the Sevenmile Trail.

GROSSULARIACEAE
Ribes lacustre
(Swamp or Prickly Currant)

Characteristics: Shrub up to 4 ft. tall. Stems have numerous bristly spines and large spines at the leaf nodes. Leaves are 1-2 in. wide and deeply palmately lobed, with 5 main divisions. The inflorescence is a droopy 5-15 flowered raceme with purple glandular bristles. Flowers are saucer shaped and yellowish to pinkish or purple. Fruits are black and about ¼ in. wide with glandular bristles. Flowers June-July.

Habitat: Along springs, seeps, and streams, often shady sites.

Notes: A sharp-spined currant found in wet areas. Fruits are somewhat palatable.

Flowers, Hardwood Trees, and Shrubs

GROSSULARIACEAE
Ribes lobbii
(Gummy Gooseberry)

Characteristics: Shrub to 3 ft. tall, with 3 sharp, straight, slender spines at each node. Leaves are ovate, ½-1 in. wide with 3-5 main rounded lobes and glandular hairs beneath. The flowers have a short funnel-shaped tube, 5 red reflexed sepals, and 5 white to pink petals. Flowers and fruits are in clusters of 1-3 on glandular stalks. Fruits are red berries ½ in. long with glandular bristles. Flowers June-July.

Habitat: Openings in mixed conifer forest.

Notes: An attractive ornamental. Sierra Gooseberry, *R. roezlii*, has similar red to purplish flowers, but the fruits have stiff, non-glandular spines.

GROSSULARIACEAE
Ribes velutinum
(Desert Gooseberry)

Characteristics: Shrub to 6 ft. tall, with stout arching branches and single sharp, straight spines at each node. Leaves are rounded and less than 1 in. wide, divided more than ½ their length into 3-5 main lobes. The flowers have a short, hairy, tube, 5 white to pinkish sepals, and 5 white petals. Flowers and fruits are in clusters of 1-4. Fruits are smooth, dry, purplish berries ⅓ in. wide. Flowers April-May.

Habitat: Shrublands and juniper woodlands, common in the hills around Klamath Falls.

Notes: A spiny early flowering shrub. Fruits are edible, but dry and not very palatable.

GROSSULARIACEAE
Ribes viscosissimum
(Sticky Currant)

Characteristics: Shrub up to 4 ft. tall. Stems are erect and without spines or bristles. Leaves are 1-3 in. wide, soft hairy, glandular, and shallowly palmately lobed with 3-5 main divisions. Flowers are in clusters of 6-12. Flowers have a short tube with 5 greenish to pinkish sepals and 5 white petals. Fruits are about ½ in. long and blue to black. Flowers June-July.

Habitat: Moist to dry sites, generally in mixed conifer forest.

Notes: Easy to identify because of the broad, soft, sticky leaves. Fruits are edible, but bad tasting. Can be seen along the High Lakes Trail.

HYDRANGEACEAE
Philadelphus lewisii
(Wild Mock Orange)

Characteristics: Shrub to 10 ft. tall often with peeling bark. Leaves are 1-1½ in. long bright green, ovate to elliptic, and opposite. Flowers are 1 in. across, showy, and fragrant with 4 white petals and numerous stamens. Flowers are in clusters of 3-11. Fruits are 4-parted capsules. Flowers May-June.

Habitat: Primarily around the south end of Upper Klamath Lake and along the Klamath River.

Notes: Wild mock orange can be identified by the opposite leaves and 4-petaled flowers. It is an attractive, easy to grow ornamental. Look for it at Howard Bay in the spring.

Flowers, Hardwood Trees, and Shrubs

HYDROPHYLLACEAE
Hesperochiron californicus
(California Hesperochiron)

Characteristics: Perennial with a rosette of elliptic or ovate leaves up to 3 in. long with short hairs. Flower stalks typically number more than 5 and are about 2-4 in. long with a single flower on each. Flowers have 5 white petals fused at the base; the free lobes are about as long as the tube. Fruits are 1-celled capsules. Flowers May-June.

Habitat: Shrublands, scablands, ponderosa pine woodlands, and meadows.

Notes: Dwarf hesperochiron, *H. pumilus*, has narrower leaves and fewer flowers than California hesperochiron, and the fused part of the flower is much shorter than the free lobes.

HYDROPHYLLACEAE
Hesperochiron pumilus
(Dwarf Hesperochiron)

Characteristics: Perennial with a rosette of oblong leaves up to 3 in. long, the lower surface usually not hairy. Flower stalks typically number 1-8 and are about 2-4 in. long, with a single flower on each. Flowers are broader than long, with 5 white petals fused at the base, the free lobes longer than the tube. Fruits are 1-celled capsules. Flowers May-June.

Habitat: Meadows and swales, usually sites that are wet in the spring.

Notes: Hesperochirons are sometimes called "false strawberries," although they are not related to strawberries.

HYDROPHYLLACEAE
Hydrophyllum capitatum
(Ballhead Waterleaf)

Characteristics: Perennial with a short rhizome and stem. Leaves are lanceolate to ovate in outline, 4-6 in. long, and deeply divided into 5-7 main divisions. Flowers are about ⅓ in. wide with five white, blue, or lavender petals and 5 exerted stamens. Numerous flowers are arranged in head-like clusters located at the base of the leaves and often hidden by them. Fruits are small rounded capsules. Flowers May-June.

Habitat: Shrublands, scablands, and ponderosa pine woodlands.

Notes: An easy to identify wildflower that is common around Klamath Falls in the spring.

HYDROPHYLLACEAE
Nemophila pedunculata
(Littlefoot Nemophila)

Characteristics: Trailing branched annual with stems up to 1 ft. long. Leaves are opposite, and ¼-1 in. long, with 5-9 deep pinnate lobes and bristly hairs. Petioles have long ciliate hairs. Flowers are about ¼ in. wide and bowl shaped. The 5 white to lavender petals have dark blue-purple markings and are fused at the base. The calyx has ⅛ in. long appendages between the sepals that fold down. Fruits are small capsules. Flowers May-July.

Habitat: Meadows, streambanks, ditches, and open moist sites.

Notes: A similar species, *N. parviflora*, has very small appendages between the sepals, and leaves that are less deeply lobed.

Flowers, Hardwood Trees, and Shrubs

HYDROPHYLLACEAE
Phacelia hastata
(Silver-leaf Phacelia)

Characteristics: Soft, silvery hairy perennial with trailing to ascending stems 8-20 in. long. Leaves are up to 5 in. long, mostly clustered at the base of the plant, and lanceolate to narrowly elliptic, sometimes with a small pair of lobes at the base. Flowers are dull white to purplish and about ⅓ in. long, with five petals fused at the base and 5 exerted stamens. Numerous flowers are arranged in coiled clusters at the ends of the branches. Fruits are small oval-shaped capsules. Flowers June-July.

Habitat: Forest openings and roadsides, often at higher elevations than vari-leaf phacelia.

Notes: Also called “scorpion weed” because of the coiled inflorescences. Flowers are often dingy looking.

HYDROPHYLLACEAE
Phacelia heterophylla
(Vari-leaf Phacelia)

Characteristics: Bristly hairy biennial or short-lived perennial with a central erect stem 1-4 ft. tall. Leaves are 2-6 in. long, typically with a main elliptic lobe and two smaller basal lobes. Flowers are dull white and about ¼ in. long, with five petals fused at the base and 5 exerted stamens. Flowers are in a long, narrow, leafy inflorescence at the top of the stem. Fruits are small oval-shaped capsules. Flowers June-July.

Habitat: Shrublands and openings in ponderosa pine forests.

Notes: The tall, erect, central stem makes this plant easy to identify. The bristly hairs of some *Phacelia* species can cause a skin reaction similar to poison oak in some people.

HYDROPHYLLACEAE
Phacelia linearis
(Thread-leaf Phacelia)

Characteristics: Hairy annual with a single or sometimes branched stem usually less than 1 ft. tall. Leaves are linear to narrowly lanceolate, 1-3 in. long, often with 2 small lobes near the base. Flowers are blue to lavender and about ½ in. wide, with five petals fused at the base and 5 exerted stamens. Flowers are in a compact inflorescence at the top of the stem. Fruits are small oval-shaped capsules. Flowers May-July.

Habitat: Shrublands, roadsides, and openings in ponderosa pine forests.

Notes: This species is variable in size. Devil's Garden is a good place to see it in the spring.

IRIDACEAE
Iris chrysophylla
(Yellow-leaf Iris)

Characteristics: Perennial from slender rhizomes up to 16 in. tall and often in clumps. Leaves are about ¼ in. wide, and 8-16 in. long. Flowering stems are 3-6 in. tall with 1-3 leaves. Flowers are white to light yellow, or bluish, with darker veins. Flowers have 3 showy sepals, 3 petals, and 3 flattened style branches that look like petals. The flower tube is slender and 1½-3 in. long, with the ovary beneath. Flowers May-July.

Habitat: Openings in ponderosa pine and mixed conifer forest. More common west of the Cascade crest.

Notes: Can be seen along Highway 66 west of Keno. Species in the iris family have leaves that are 2-ranked and flattened edgewise to the stem.

Flowers, Hardwood Trees, and Shrubs

IRIDACEAE
Iris missouriensis
(Western Blueflag)

Characteristics: Perennial 8-20 in. tall from a creeping, tuber-like rhizome. Leaves are flexible and sword shaped, ¼-½ in. wide, and 8-20 in. long. Flowers are 3-4 in. wide, whitish to pale blue or violet with darker veins. Flowers have 3 showy sepals, 3 petals, and 3 flattened style branches that look like petals. The ovary is inferior. Flowers May-July.

Habitat: Meadows, streamsides, and other seasonally moist grassy areas.

Notes: Blueflag often grows in dense clumps. The species is avoided by livestock and may increase with heavy grazing.

IRIDACEAE
Sisyrinchium douglasii
(Purple-eyed Grass)

Characteristics: A clump forming perennial 4-12 in. tall. The stem is rounded or compressed but not winged. Leaves are narrow and sword shaped, or sometimes reduced and bract-like, mostly on the lower half of the stem. Flowers are about 1 in. wide, and rose-purple, with a yellow center. The 6 tepals are rounded or short pointed. There are usually 2 flowers per stem. Flowers March-June.

Habitat: Scablands and other open places where it is moist in the spring.

Notes: Showier than blue-eyed grass. Sometimes found flowering with desert shooting star.

IRIDACEAE
Sisyrinchium idahoense
(Blue-eyed Grass)

Characteristics: A clump-forming perennial 4-20 in. tall, with one to several flat or sometimes wing-margined stems that are taller than the leaves. Leaves are narrow, sword shaped, 2-10 in. long, and clustered near the base of the plant. The flowers are ½-1 in. wide, and blue-violet with a yellow center. The 6 tepals have a fine point between the notched tip. There usually is 1 flower per stem. Flowers April-July.

Habitat: Moist meadows and open, seasonally moist forest.

Notes: A yellow flowered species, golden-eyed grass (*S. californicum*), also occurs in our area.

LAMIACEAE
Agastache urticifolia
(Nettleleaf Horsemint)

Characteristics: Perennial 1-5 ft. tall with many leafy square stems. Leaves are 1½-3 in. long, opposite, lanceolate to triangular, and coarsely toothed. The white to pink or lavender flowers occur in a dense terminal spike 1½-6 in. long. Each flower is bilaterally symmetrical and fused into a tube, with a 2-lobed upper lip, 3-lobed lower lip, and four protruding stamens. Flowers June-Aug.

Habitat: Ponderosa pine woodlands and rocky slopes.

Notes: Easy to identify with leaves that look like stinging nettle and a strong minty smell.

Flowers, Hardwood Trees, and Shrubs

LAMIACEAE
Mentha arvensis
(Field Mint)

Characteristics: Perennial from creeping rhizomes, 8-32 in. tall with a square stem. Leaves are bright green, opposite, ¾-3 in. long, and broadly lanceolate with sawtooth margins. The ¼ in. long, pale pink-lavender flowers are in dense whorls in the leaf axils, nearly hidden by the leaves. Flowers are bilaterally symmetrical, fused into a 4-lobed tube with with an upper and lower lip and four protruding stamens. Flowers July-Sept.

Habitat: Streamsides, moist meadows, ditches, and pond margins.

Notes: Has a strong minty odor. Wild mint tea can be made from the leaves.

LAMIACEAE
Monardella odoratissima
(Coyote Mint)

Characteristics: Perennial 6-16 in. tall with numerous stems from a stout taproot. Stems are square, greenish gray, and hairy, becoming woody near the base. Leaves are opposite, lanceolate, up to 1¼ in. long, and nearly sessile. The ¾ in. long flowers are white to purple and form dense rounded heads. Flowers are bilaterally symmetrical with 5 lobes and 4 protruding stamens. Membranous bracts form an involucre below the flower head. Flowers June-Sept.

Habitat: Dry to moist and often rocky forest openings at a wide range of elevations.

Notes: Has a strong minty odor. Common and widespread in the Upper Klamath Basin.

LAMIACEAE
Prunella vulgaris
(Self-heal)

Characteristics: Fibrous-rooted perennial 4-20 in. tall from a caudex or short rhizome. The stem can be prostrate to erect and is square. Leaves have short petioles and are ¾-3½ in. long, opposite, entire to few-toothed, and oval to lanceolate. The inflorescence is a thick spike with purple to brown bracts and blue to white or pink flowers. Flowers are bilateral and tubular with a hood-like upper lip and 3-lobed lower lip. Flowers May-Sept.

Habitat: Meadows, streamsides, and other moist areas.

Notes: Lacks a minty smell. Self-heal also occurs in Europe and Asia and is named for its long history of medicinal use. It can be grown from seed, but requires moist conditions.

LAMIACEAE
Scutellaria nana
(Dwarf Skullcap)

Characteristics: Perennial 1-4 in. tall from thick, sometimes tuber-like rhizomes. Stems are square and branched, with downward pointing hairs. Leaves are grayish hairy, ½-1 in. long, opposite, entire, and oblanceolate to narrowly elliptic with short petioles. The small bilateral flowers are solitary in the leaf axils, with a cream to yellow lower lip and a pale purple to red-purple upper lip. Flowers June-Aug.

Habitat: Pumice and other dry volcanic soils.

Notes: At first, this species looks like it could be in the figwort family. Square stems, opposite leaves, two-lipped bilateral flowers, and 4 nutlet fruits characterize the mints.

Flowers, Hardwood Trees, and Shrubs

LAMIACEAE
Stachys ajugoides var. rigida
(Rough Hedge-nettle)

Characteristics: Perennial 2-4 ft. tall from a slender rhizome. Stems are square, and hairy, bristly or glandular. Leaves are 2-3½ in. long, opposite, often hairy, and ovate with scalloped margins. Petioles are short to absent on upper leaves, longer below. Flowers are tubular, two-lipped and pink to purplish, arranged in whorls in the upper leaf axils. The flower tube is up to ½ in. long with a ring of hairs inside near the base. The lower lip is tongue-like and often purple spotted. Flowers July-Aug.

Habitat: Streamsides and wetland margins.

Notes: Native hedge-nettles are related to lamb's ears, *Stachys byzantina*, a common introduced ornamental groundcover.

LAMIACEAE
Stachys cooleyae
(Hedge-nettle)

Characteristics: Rhizomatous perennial 2-3 ft. tall, with a square stem and downward pointing bristly hairs. Leaves are 2-6 in. long, opposite, ovate, and hairy with coarse teeth. Flowers are tubular, two-lipped, and dark red-purple, arranged in whorls in the upper leaf axils. The flower tube is up to 1 in. long, with a ring of hairs inside near the base. Sepals have glandular hairs and small spine tips. Flowers June-Aug.

Habitat: Streamsides and wetland margins.

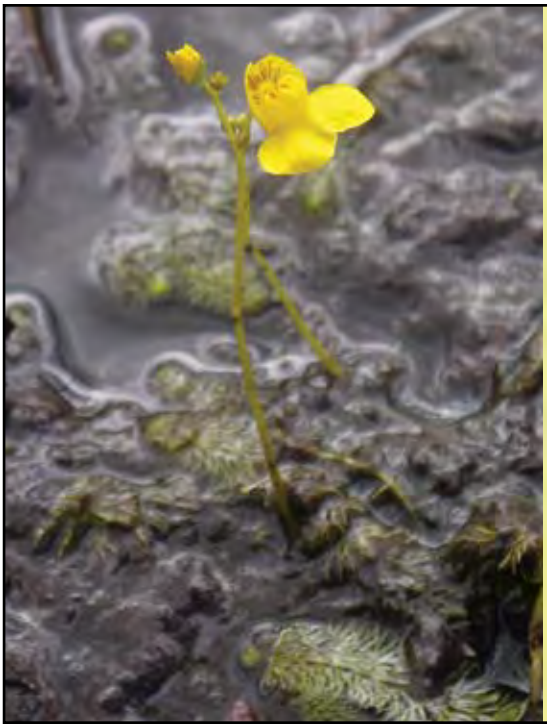
Notes: Differs from *S. ajugoides var. rigida* in having longer petioles on the upper leaves and larger flowers.

LENTIBULARIACEAE
Utricularia vulgaris
(Common Bladderwort)

Characteristics: Submersed, floating perennial. Stems are highly branched into fine thread-like segments with bristles at the tips. True leaves are lacking. Small whitish bladders are attached to the branched stems. Flower stalks are erect above the water. The yellow flowers are about ½ in. long and two-lipped, with a forward curving spur. Flowers June-Aug.

Habitat: Wetlands in shallow water.

Notes: Bladderworts are carnivorous plants that trap and digest small aquatic organisms in their floating bladders. *U. intermedia* has smaller flowers and bladders located on separate unbranched stems.



LILIACEAE
Allium acuminatum
(Tapertip Onion)

Characteristics: Perennial 4-12 in. tall from clustered bulbs with brownish outer coats and whitish inner coats. Stems are rounded and longer than the leaves. The 2-3 leaves are linear, 4-6 in. long, and wither soon after flowering. Pink flowers are in umbels with 2 papery bracts below each umbel. Each flower has 3 long tapered outer tepals and 3 inner tepals with minutely saw-toothed, in-rolled margins. Onion smell. Flowers May-July.

Habitat: Shrublands, scablands, and rocky ridges.

Notes: One of our most common wild onions, named for the tapered tips on the petals. Sierra onion, *A. campanulatum*, is similar but has less tapered, equal-sized tepals.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Allium amplectens
(Narrow-leaf Onion)

Characteristics: Perennial with an oval to rounded bulb, dark brown on the outside, with reddish inner coats. Stems are 6-18 in. tall. The 2-4 leaves are shorter than the stem, narrow and cylindrical, withering soon after flowering. Flowers are white to pink in dense umbels. The 6 tepals are lanceolate. Onion smell. Flowers May-July.

Habitat: Shrublands, scablands, and rocky ridges.

Notes: Wild onions are in the same genus as domesticated onions, garlic, leeks, and chives. None of the crop species originated in North America.

LILIACEAE
Allium parvum
(Small Onion)

Characteristics: Perennial with an oval bulb, dark brown on the outside, with white to pinkish inner coats. Stems are 1-2 in. tall and flattened. The 2 leaves are thick, flat, curved, and longer than the stem. Flowers are pink, in open to dense umbels. The 6 tepals are lanceolate. Onion smell. Flowers May-July.

Habitat: Shrublands, scablands, and rocky ridges.

Notes: Onions as a group are easy to identify because of the smell; however, individual species can be difficult to distinguish. This species is noted for its short, flat stems.

LILIACEAE
Allium platycaule
(Broad-stemmed Onion)

Characteristics: Perennial with an oval bulb, gray on the outside. Stems are 3-10 in. tall, flat, and winged. The 2 leaves are thick, flat, curved, and 2 times longer than the stem. Flowers are bright pink to rose, in dense umbels. The 6 tepals are narrow and long pointed. Onion smell. Flowers May-July.

Habitat: Shrublands, scablands, and rocky ridges.

Notes: Seeds of some of the wild onions, including broad-stemmed onion, are available commercially and can be grown in a native species garden.

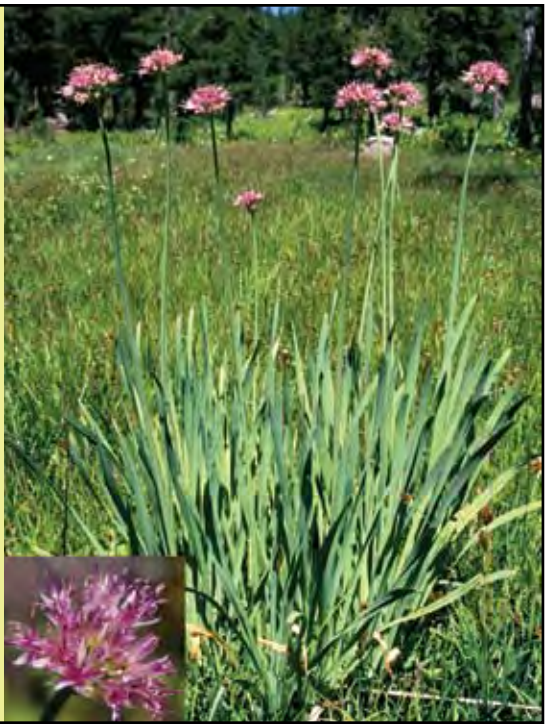
LILIACEAE
Allium tolmiei
(Tolmie's Onion)

Characteristics: Perennial 2-10 in. tall from clustered ovoid bulbs with brownish outer coats and whitish inner coats. Stems are flat with narrow to broad wings. Leaves are flat and sickle shaped, approximately ½ in. wide and up to 2 times as long as the stem. Flowers are in umbels of 10-40, with 2 papery bracts below each umbel. Each flower has 6 tapered white to pink tepals with acuminate tips and usually darker pink mid-veins. Onion smell. Flowers April-July.

Habitat: Rocky, gravelly, or clayey soils.

Notes: The stems of this species are often sprawling.

Flowers, Hardwood Trees, and Shrubs



LILIACEAE
Allium validum
(Swamp Onion)

Characteristics: Perennial 1-3 ft. tall from an elongate bulb terminating in a thick Iris-like rhizome. Bulbs have fibrous brownish outer coats and reddish-purple inner coats. The stem is longer than the leaves, flattened, and narrowly winged or angled towards the top. The numerous long, strap-shaped leaves are ¼-¾ in. wide. The white to dark rose-purple flowers are in dense umbels. Tepals are lanceolate with short-pointed tips. Stamens are longer than the petals. Onion smell. Flowers June-Sept.

Habitat: Wetlands, springs, and streamsides in the mountains.

Notes: This onion is easy to identify because of its large size, dense clump of leaves, and wetland habitats.

LILIACEAE
Brodiaea coronaria
(Crown Brodiaea)

Characteristics: Perennial from a fibrous-coated corm up to 1 ft. tall. The 3-5 leaves are long, grass-like, and persistent. Flowers are in a loose umbel-like cluster at the top of the stalk. Flowers are tubular and bell shaped. The 6 blue-purple tepals have tips that curve backward. Fertile stamens are 3. Three white to pink staminodes form curved crown-like structures around the stamens. Flowers have a single style with a 3-lobed stigma. Flowers May-July.

Habitat: Ponderosa pine woodlands, shrublands, and meadows.

Notes: In comparison, species of *Dichelostemma* generally have denser flower clusters and no staminodes.

LILIACEAE
Calochortus macrocarpus
(Sagebrush Mariposa Lily)

Characteristics: Perennial 8-20 in. tall from a bulb. Stems are stout and erect. Leaves are 2-4 in. long, very narrow and curled at the tip. The 1-3 flowers are lavender to white and 1½-2 in. wide. Sepals are narrowly lanceolate and are longer than the 3 broad petals, which have a green stripe on the back. At the base of each petal is a nectary fringed with yellow hairs and surrounded by a band of deep lilac. Flowers July-Aug.

Habitat: Shrublands, and ponderosa pine and juniper woodlands. Occurs on Modoc Rim.

Notes: "Mariposa" is the Spanish word for butterfly. Another species, long-bearded mariposa lily, has small pink to purple flowers and grows in meadows.

LILIACEAE
Calochortus tolmiei
(Tolmiei's Pussy Ears)

Characteristics: Perennial 4-15 in. tall from a bulb. The stem is slender and simple or branched, usually with a single, narrow basal leaf equal to or longer than the stem, and a smaller stem leaf. Flowers are 1-5 per plant and bell shaped, with 3 broad rounded petals and 3 narrow sepals. The entire petal surface is densely hairy, with long ciliate hairs around the margin, except at the tip. Flowers are usually white tinged with pink or purple. Flowers April-July.

Habitat: Openings in ponderosa pine and mixed conifer forest.

Notes: Named for the hairy petals shaped like a cat's ear. *C. elegans* is similar, but has long hairs around the entire margin of the petals.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Camassia quamash
(Common Camas)

Characteristics: Perennial 12-20 in. tall from a solitary bulb. The stem is longer than the leaves. Leaves are linear, basal and 2-6 in. long. The inflorescence is a raceme with light to deep blue star-shaped flowers that have 6 narrow tepals. There is also a white albino form. Flowers April-June.

Habitat: Moist meadows and streamsides.

Notes: Camas occurs throughout the West. In good flowering years, it can color an entire meadow blue. Look for it at Great Meadow by Lake of the Woods.

LILIACEAE
Clintonia uniflora
(Queen Cup Beadlily)

Characteristics: Perennial 2½-6 in. tall from slender spreading rhizomes. There are 2-3 basal leaves 4-6 in. long, oblong to elliptic, dark green, thick, and shiny, with parallel veins. One white cup-shaped flower with 6 oblong tepals blooms on a single leafless stalk. The fruit is a shiny blue berry. Flowers May-July.

Habitat: Moist, shady mixed conifer forest, often in riparian areas.

Notes: Can be seen along the High Lakes Trail and at Sevenmile Guard Station.

LILIACEAE
Dichelostemma congestum
(Forked-tooth Ookow)

Characteristics: Perennial from a fibrous-coated corm up to 3 ft. tall. The 2-5 leaves are long, grass-like, and persistent. Flowers are in a dense, head-like cluster. Flowers are tubular and funnel shaped with 6 blue-purple tepals, the free lobes about as long as the tube. There are 3 fertile stamens, with forked, crown-like appendages on the filaments. Flowers have a single style with a 3-lobed stigma. Flowers May-June.

Habitat: Ponderosa pine woodlands, shrublands, and meadows.

Notes: Previously called *Brodiaea congesta*. The common name comes from the forked appendages on the stamens.

LILIACEAE
Erythronium klamathense
(Klamath Fawn Lily)

Characteristics: Perennial 2½-8 in. tall from an elongate bulb. There are 2 basal leaves that are 2½-7 in. long, lanceolate to narrowly elliptic, folded along the mid-vein, and entire to wavy margined. Flowers are 1-3 per stalk and have 6 white tepals with a yellow base that become pinkish with age and curl backwards. Flowers June-July.

Habitat: Moist forest and cold drainages in the Cascades.

Notes: Also called glacier lily, this species can be seen at the Cold Springs Trailhead while there are still patches of snow on the ground.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Fritillaria atropurpurea
(Chocolate Lily)

Characteristics: Perennial 1-2 ft. tall from a bulb. Leaves are 7-14 in. long and linear, arranged in whorls or alternate on the upper stem. There are 1-4 bell-shaped, nodding flowers per stem that are ½-¾ in. long. Flowers have 6 lanceolate tepals that are greenish to chocolate brown and yellow or white spotted. Flowers April-July.

Habitat: Open ponderosa pine and mixed conifer forest.

Notes: This species is distinguished by its uncommon flower color.

LILIACEAE
Fritillaria pudica
(Yellow Fritillary)

Characteristics: Perennial 4-12 in. tall from a bulb. Leaves are linear, 2-8 in. long, sub-opposite or whorled, and borne near the middle of the stem. The 1-3 flowers are ½-1 in. long, nodding, and narrowly bell shaped. The 6 tepals are bright yellow, fading to reddish as they age. Flowers March-June.

Habitat: Shrublands, scablands, and ponderosa pine and juniper woodlands.

Notes: Also called "yellow bells." A common, early spring wildflower.

LILIACEAE
Leucocrinum montanum
(Sand Lily)

Characteristics: Perennial up to 8 in. tall from a short, deep, caudex. Leaves are linear, grass-like, and up to 8 in. long in a basal rosette. The flowers are 1¼ in. wide, white, star shaped and fragrant. The 6 tepals join at the base to form a long slender tube that attaches underground. Flowers April-June.

Habitat: Shrublands, scablands, juniper woodlands, and ponderosa pine forest. Sandy or clay soils.

Notes: With its grass-like leaves, this species often goes unnoticed until it begins flowering in the spring. Can be seen at Devil's Garden.

LILIACEAE
Lilium pardalinum
(Leopard Lily)

Characteristics: Perennial 3-8 ft. tall from a bulb. Leaves are 2-4 in. long, narrowly lanceolate, and arranged in several whorls or scattered along the stem. Flowers are nodding and about 2 in. wide with 6 tepals that curve backwards from the middle. Tepals are orange, lighter near the base and darker towards the tips, with red to maroon spots. The 6 anthers are about ½ in. long and orange to maroon. Flowers May-July.

Habitat: Streamsides and springs in the Cascades.

Notes: Columbia lily, *L. columbianum*, is a similar species that grows in dry sites west of the Cascade crest.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Lilium washingtonianum
(Washington Lily)

Characteristics: Perennial 2-7 ft. tall from a bulb. Leaves are 2-4 in. long and lanceolate with wavy to entire margins. Leaves are sessile and nearly clasping, whorled on the upper stem and scattered on the lower stem. Flowers are 3-4 in. wide and trumpet shaped, with 6 white tepals that are sometimes purple spotted and turn pinkish with age. Flowers June-July.

Habitat: Open ponderosa pine or mixed conifer forest.

Notes: Flowers are very fragrant. Lilies are protected from collection on public lands and highway rights-of-way in Oregon.

LILIACEAE
Smilacina racemosa
(Branched Solomon's Seal)

Characteristics: Perennial 1-2 feet tall from a thick, creeping rhizome. Leaves are 3-10 in. long, sessile and usually clasping, ovate to elliptic, and acute to acuminate with parallel veins. Numerous tiny, white, star-shaped flowers are arranged in a well-branched panicle at the top of the stem. Fruits are red berries with occasional purple spots. Flowers May-July.

Habitat: Moist, shady mixed conifer forest and riparian areas.

Notes: Has broader leaves and smaller, more numerous flowers than starry solomon's seal.

LILIACEAE
Smilacina stellata
(Starry Solomon's Seal)

Characteristics: Perennial 1-2 ft. tall from a slender creeping rhizome. Stems are straight or zig-zagged and may be smooth or hairy. Leaves are 2½-8 in. long, sessile and clasping, lanceolate to elliptic, and flat to folded. Flowers are white, star shaped, and ¼ in. wide with 6 narrow tepals, arranged in a raceme. Fruits are reddish-purple to black berries. Flowers May-July.

Habitat: Mixed conifer forest and riparian areas.

Notes: This species is very common, and can be seen along the High Lakes Trail. Solomon's seal is sometimes put in the genus *Maianthemum*.

LILIACEAE
Streptopus amplexifolius
(Twisted Stalk)

Characteristics: Perennial up to 3 ft. tall and generally branched with a zig-zag stem. Leaves are oval to heart shaped with parallel veins. Leaves have no petioles and clasp the stem. Flowers are bell shaped with 6 white to yellow-green tepals. Fruits are red berries about ½ in. long. The fruits hang from the leaf axils on pedicels that have a sharp kink or bend. Flowers June-July.

Habitat: Streamsides and springs in the mountains.

Notes: Rosy twisted stalk (*S. roseus*) has flowers with pink to reddish coloration, and fruits that hang on straight or slightly curved pedicels.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Trillium ovatum
(Trillium)

Characteristics: Perennial 4-16 in. tall from a short, thick rhizome. Leaves are 2-8 in. long, broadly ovate with a pointed tip, and arranged in a whorl of 3. The flower is on a long stalk above the leaves. Flowers are 1½-2 in. wide with 3 green sepals and 3 white petals that turn pink with age. Flowers March-June.

Habitat: Moist mixed conifer forest and riparian areas.

Notes: Easy to recognize and one of the first flowers to bloom in the mountains in spring. Can be seen along the High Lakes Trail and near Sevenmile Guard Station.

LILIACEAE
Triteleia grandiflora
(Largeflower Triteleia)

Characteristics: Perennial 8-28 in. tall from a tan, fibrous coated corm. The one or two grass-like leaves are at the base of the plant, up to ½ in. wide and 20 in. long, and keeled underneath. Flowers are in an open umbel and have 6 stamens and 6 tepals joined in an inflated tube about ½ in. long. Tepals are white to blue-purple with a deeper bluish-purple mid-vein. Inner tepals are ruffled. Flowers April-July.

Habitat: Meadows, shrublands, and ponderosa pine woodlands.

Notes: Species of *Triteleia* have 6 fertile stamens, species of *Brodiaea* and *Dichelostemma* in our area have 3.

LILIACEAE
Triteleia hyacinthina
(White Brodiaea)

Characteristics: Perennial 10-28 in. tall from a fibrous coated corm. Leaves are basal, narrow, grass-like, and 4-16 in. long. Flowers are in umbels. Each flower is approximately ½ in. wide and has 6 tepals that are joined at the base to form a shallow bowl. The flowers are white or rarely light blue with a greenish mid-vein. Flowers June-Aug.

Habitat: Meadows, shrublands, and ponderosa pine woodlands.

Notes: Formerly called *Brodiaea hyacinthina*. This species resembles a large onion, but lacks the onion smell.

LILIACEAE
Veratrum californicum
(False Hellebore, Corn Lily)

Characteristics: Perennial from a thick rhizome with a corn-like stalk 3-8 ft. tall. Leaves are 8-12 in. long, and ovate to elliptic with parallel veins. Leaves are sessile and alternate, larger near the base and smaller towards the top. Flowers have 6 white to greenish tepals ½-¾ in. long and are arranged in a dense, terminal panicle. Flowers June-Aug.

Habitat: Meadows, streamsides, springs and moist woodlands.

Notes: Often confused with skunk cabbage, which does not occur in our area. Green false hellebore, *V. viride*, has dark yellowish green flowers. Both species contain toxic alkaloids.

Flowers, Hardwood Trees, and Shrubs

LILIACEAE
Zigadenus paniculatus
(Death Camas)

Characteristics: Perennial from a dark coated bulb or rhizome 8-28 in. tall. Leaves are long, grass-like and mostly at the base, becoming smaller up the stem. Flowers are cream to greenish-white in a branched panicle. Flowers are bell shaped with 6 tepals and the stamens longer than the petals. Flowers May-July.

Habitat: Shrublands, scablands, and ponderosa pine woodlands.

Notes: Toxic and can be confused with common camas. In addition to flower differences, death camas has leaves on the stem, while the leaves of common camas are only at the base.

LILIACEAE
Zigadenus venenosus
(Death Camas)

Characteristics: Perennial from a dark coated bulb up to 20 in. tall. Leaves are long, grass-like, and mostly at the base, becoming smaller up the stem. Flowers are white in a dense, terminal head-like cluster. Flowers are bell shaped with 6 white to cream colored tepals. The inner tepals have yellow-green nectaries. Stamens are 6, styles 3. Flowers May-July.

Habitat: Moist meadows.

Notes: Toxic and more likely than *Z. paniculatus* to be confused with common camas because it occurs in moist meadows.

LINACEAE
Linum lewisii
(Western Blue Flax)

Characteristics: Perennial 1-3 ft. tall, usually with mutiple, leafy, slender stems. Leaves are linear to lanceolate, ½-1¼ in. long, and glabrous. Flowers are about 1 in. wide and blue, with 5 sepals, 5 petals, 5 stamens, and a single pistil with a rounded stigma. Numerous flowers bloom on slender stalks near the top of the stems. Flowers May-Sept.

Habitat: Shrublands and open ponderosa pine forests.

Notes: Difficult to transplant, but easy to grow from seed, which is commercially available.

Flowers, Hardwood Trees, and Shrubs

LOASACEAE
Mentzelia albicaulis
(White-stemmed Stickleaf)

Characteristics: Annual 4-15 in. tall with shiny, whitish stems. Leaves are covered with barbed hairs, linear to triangular, and strongly saw-toothed or pinnately lobed. Flowers are about ½ in. long with 5 bright yellow rounded petals and numerous stamens. The ovary is inferior and also covered with barbed hairs. Flowers March-July.

Habitat: Dry sandy soil, shrublands, and juniper woodlands.

Notes: This plant gets its name from the Velcro-like barbed hairs on the leaves.

LOASACEAE
Mentzelia laevicaulis
(Giant Blazing Star)

Characteristics: Biennial or perennial 1-4 ft. tall from a deep taproot. Stems are branched and satiny white. Leaves are 4-12 in. long, grayish, rough-hairy, and narrowly lanceolate with pinnate lobes or large irregular teeth. Flowers are 2-6 in. across, with 5 lemon yellow lanceolate petals and numerous stamens. The ovary is inferior. Flowers June-Oct.

Habitat: Shrublands to open forested areas, often sandy or rocky soil.

Notes: Very showy and often seen along roadsides.

MALVACEAE
Malva neglecta
(Common Mallow)

Characteristics: Annual or biennial 6-12 in. tall, with a long taproot and trailing, hairy stems. Leaves are ½-2½ in. wide, umbrella-like, dark green, and inconspicuously 5-7 lobed with rounded teeth. Petioles are much longer than the blades. Flowers are ½ in. wide, with 5 pale pink or lilac petals and a central column of numerous stamens. Fruits are small and wheel-like with 10-15 wedge-shaped segments. Flowers May-Oct.

Habitat: Dry disturbed places.

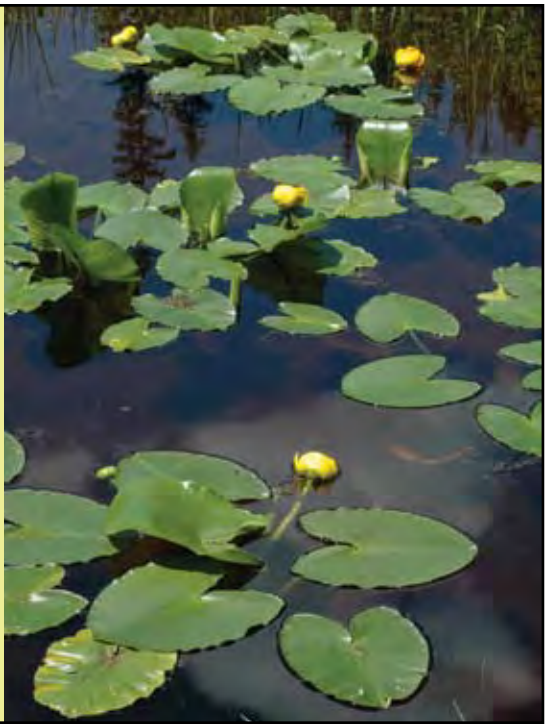
Notes: An edible, weedy, non-native species. Also called cheeseweed because the fruits resemble wheels of cheese.

MALVACEAE
Sidalcea oregana
(Checker Mallow)

Characteristics: Perennial 1-4 ft. tall from a woody taproot. Leaves are palmately lobed with 5-9 main divisions and are highly variable. Upper leaves are usually smaller and more deeply lobed with narrow segments. Flowers are ½-1 in. wide, and pale pink to rose in terminal spikes. Flowers have 5 petals and a central column of numerous stamens. Flowers June-Aug.

Habitat: Meadows, shrublands, pine forests, and streamsides.

Notes: Highly variable, occurring in both wet and dry habitats. Can be seen along the High Lakes Trail.



NYMPHAEACEAE
Nuphar luteum ssp. polysepalum
(Wokas, Yellow Pond Lily)

Characteristics: Aquatic perennial from a rhizome with stout fleshy stems. The floating leaves are 4-18 in. long and heart shaped with a deep notch at the base. Cup-shaped flowers grow on long stalks extending just above the water. Flowers have 7-12 sepals (outer sepals small and green, inner sepals yellow and petal-like) 10-20 tiny petals, and many purple stamens around a single pistil with a broad flat stigma. Fruits are fleshy swollen pods. Flowers June-Aug.

Habitat: Ponds, slow streams, lakes, and marshes.

Notes: Early in the spring, wokas leaves form on the bottom of the pond and look like lettuce. By late spring, they float on the surface attached by long stalks to thick rhizomes (up to 6 in. wide) in the mud below. Seeds are eaten by waterfowl.

Flowers, Hardwood Trees, and Shrubs

ONAGRACEAE
Camissonia tanacetifolia
(Tansy-leaf Sun Cup)

Characteristics: Hairy perennial from a woody taproot, stemless with a basal rosette of leaves. Leaves are 2-8 in. long and deeply pinnately lobed. Flowers are cup shaped with a long narrow tube below leading to an inferior ovary sessile in the leaf bases. Flowers have four sepals bent backwards, 4 bright yellow petals, 8 stamens, and a single pistil with a rounded stigma. Flowers June-Aug.

Habitat: Streambanks, roadsides, disturbed meadows, open flats in shrublands, and ponderosa pine forest.

Notes: In general, sun cups open during the day, are pollinated by bees, and have rounded stigmas, while evening primroses (*Oenothera*) open at dusk, are pollinated by moths, and have 4-lobed stigmas.

ONAGRACEAE
Clarkia lassenensis
(Lassen Clarkia)

Characteristics: Annual 1-3 ft. tall, with an erect, slender, lightly hairy stem. Leaves are linear to narrowly lanceolate, ¾-2 in. long. Flowers are bowl shaped and pink to lavender or purple, with 4 fused sepals on one side, 4 obovate to fan-shaped petals, 8 stamens, and a single pistil with a 4-lobed stigma. The ovary is inferior. Flowers May-June.

Habitat: Shrublands and ponderosa pine woodlands.

Notes: Clarkias can be grown from seed.

ONAGRACEAE
Clarkia rhomboidea
(Diamond Clarkia)

Characteristics: Annual 1-3 ft. tall, with an erect, slender, short-hairy stem. Leaves are nearly opposite, lanceolate to elliptic, and ½-2½ in. long. Flowers are rose pink to purple with 4 sepals bent backwards, 4 petals, 8 stamens, and 1 pistil with a 4-lobed stigma. Petals are diamond shaped, with purple spots and two small rounded projections near the base. The ovary is inferior. Flowers May-July.

Habitat: Open ponderosa pine and mixed conifer forest.

Notes: This species is widespread and also called common clarkia.

ONAGRACEAE
Epilobium angustifolium
(Fireweed)

Characteristics: Perennial 2-7 ft. tall from rhizome-like roots forming clumps of erect leafy stems. Leaves are 4-6 in. long, lanceolate, nearly sessile, and alternate. Flowers are in a long terminal spike. Flowers have 4 magenta to bright pink petals that are ½-¾ in. long, 8 stamens, a 4-lobed stigma, and an inferior ovary. Fruits are long capsules with tiny hairy-tufted seeds. Flowers June-Sept.

Habitat: Forest openings, riparian areas, often disturbed sites.

Notes: The showiest of our Epilobiums. Called fireweed because it frequently inhabits burned areas. The small seeds with hairy tufts are dispersed by the wind.

Flowers, Hardwood Trees, and Shrubs

ONAGRACEAE
Epilobium brachycarpum
(Parched Willowherb)

Characteristics: Annual ½-4 ft. tall from a taproot with many branches and peeling bark on the lower portion. Leaves are entire to slightly toothed, linear, alternate, and folded along the midrib. Flowers are ½ in. wide or less, arranged in open, few-flowered racemes at the ends of the branches. Flowers have 4 white to rose-purple deeply notched petals, a rounded stigma, and an inferior ovary. Fruits are long capsules with tiny hairy-tufted seeds. Flowers June-Sept.

Habitat: Shrublands and dry forest openings, often disturbed areas. Common in pumice soils.

Notes: Widespread and often found with *Gayophytum diffusum*. This species can be abundant after fires.

ONAGRACEAE
Epilobium glaberrimum
(Smooth Willowherb)

Characteristics: Perennial ½-3 ft. tall from branching rootstocks, with several smooth leafy stems per plant. Leaves are ½-2 in. long, glaucous, opposite, clasping, lanceolate to narrowly ovate, and entire to toothed. The small rose-purple to light pink flowers have 4 notched petals, a rounded stigma, and an inferior ovary. Fruits are long capsules with tiny hairy-tufted seeds. Flowers June-Aug.

Habitat: Moist rocky sites, meadows, streamsides, ditches.

Notes: Several other willowherbs occur in the area. *E. ciliatum* occurs in wetlands and has large, broad, often purplish leaves.

ONAGRACEAE
Epilobium halleanum
(Glandular Willowherb)

Characteristics: Perennial ½-2 ft. tall from a slender rhizome, with tiny bulblike swellings at the base of the stem. Stems are usually hairy and the plant is glandular in the inflorescence. Leaves are opposite, narrowly lanceolate to ovate, entire to toothed, and either sessile or with short petioles. Flowers are tiny with 4 pink to purple notched petals, a rounded stigma, and an inferior ovary. Fruits are long capsules with tiny hairy-tufted seeds. Flowers June-Aug.

Habitat: Moist meadows, and streamsides.

Notes: Individually, willowherbs are inconspicuous, but large numbers can give entire meadows a pinkish cast.

ONAGRACEAE
Epilobium pygmaeum
(Little Willowherb)

Characteristics: Annual less than 20 in. tall, with lax branches; hairy and glandular above, glabrous with a peeling stem below. Leaves are lanceolate to ovate and nearly sessile, opposite near the base, and alternate above. Flowers are small, 4-petaled and pink, in terminal inflorescences with leafy bracts. Fruits are straight, cylindrical, and ⅓ in. long with seeds that lack tufts of hair. Flowers June-Aug.

Habitat: Scablands, drying mudflats.

Notes: Several species of willowherb occur in the area. This species can be distinguished by the nearly sessile leaves opposite only near the base.

Flowers, Hardwood Trees, and Shrubs

ONAGRACEAE
Gayophytum diffusum
(Spreading Groundsmoke)

Characteristics: Annual ½-2 ft. tall, with highly branched, very thin reddish stems. Leaves are linear to lanceolate, alternate, and ½-2 in. long, becoming smaller up the stem. Flowers are less than ¼ in. wide, with 4 entire white to pink petals, a rounded stigma and an inferior ovary. Fruits are long capsules with tiny hairless seeds. Flowers June-Aug.

Habitat: Shrublands and dry forest openings, often disturbed areas. Common in pumice soils.

Notes: Widespread. Can be distinguished from *Epilobium* species by the multiple thread-like branches and lack of hairs on the seeds.

ORCHIDACEAE
Calypso bulbosa
(Fairy Slipper, Calypso Orchid)

Characteristics: Perennial 3-10 in. tall, with a single elliptic to ovate basal leaf 1¼-2½ in. long. One or two bilateral flowers 1¼ in. long hang at the tip of erect reddish stalks. The 3 sepals and 2 upper petals are similar: pink-purple and lanceolate. The lower petal forms a white to pink sac marked with red-purple spots and tipped with 2 horns. The anther column is pink-purple, flat, and petal-like covering the opening to the sac. Flowers March-July.

Habitat: Moist mixed conifer forest.

Notes: This flower was named after the sea nymph in Homer's Odyssey because of her beauty and secretive behavior.

ORCHIDACEAE
Cephalanthera austiniae
(Phantom Orchid)

Characteristics: Perennial growing in clumps 8-20 in. tall with small scale-like leaves. The entire plant is white, turning brownish with age. Flowers are bilateral, with 3 lanceolate sepals about ½ in. long, 2 lateral petals, and a short, broad lower lip with a single yellow spot. Flowers June-July.

Habitat: Moist mixed conifer forest, often shady sites.

Notes: Indian pipe, *Monotropa unifora* (heath family), is also white with scale-like leaves, but has a single, nodding, radially symmetrical flower with 5 petals.

ORCHIDACEAE
Corallorhiza maculata
(Spotted Coralroot)

Characteristics: Perennial ½-2 ft. tall, with reddish unbranched stems growing from an underground coral-like mass. Leaves are reddish and bract-like. Flowers are bilateral and about ¾ in. wide in terminal racemes. The 3 sepals and 2 upper petals are similar and pink to reddish-purple or yellowish. The lower petal is lip-like, white with red or purple spots. There is a short bump-like spur below the lip. Flowers June-Aug.

Habitat: Shady mixed conifer forest in decomposing leaf litter.

Notes: Stems arise from a fleshy coral-like mass of fungal hyphae and tree roots. Coralroots lack chlorophyll and are entirely dependent on mycorrhizal fungi for their nutrition.

ORCHIDACEAE
Corallorhiza mertensiana
(Western Coralroot)

Characteristics: Perennial ½-2 ft. tall, with reddish unbranched stems growing from an underground coral-like mass. Leaves are reddish and bract-like. Flowers are bilateral and about ¾ in. wide in terminal racemes. The 3 sepals and 2 upper petals are similar and reddish-purple to yellowish. The lower petal is lip-like, red-purple except for the white tip. There is a short spur below the lip. Flowers June-Aug.

Habitat: Shady mixed conifer forest in decomposing leaf litter.

Notes: Striped coralroot, *C. striata*, has pink sepals, petals striped with red-purple, and no spur. Northern coralroot, *C. trifida*, has pale yellowish flowers.

ORCHIDACEAE
Cypripedium montanum
(Mountain Ladyslipper)

Characteristics: Perennial in clumps up to 2 ft. tall. Leaves are ovate with parallel veins. Flowers are large and showy. Flowers are bilateral, the lower petal forms a white slipper-like pouch. The remaining sepals and petals are maroon colored. Flowers June-July.

Habitat: Mixed conifer forest, often in drainages.

Notes: Ladyslippers, calypso orchids, and many of the lilies are protected from collection on public lands and highway rights-of-way in Oregon. Please leave these species for others to enjoy!

ORCHIDACEAE
Goodyera oblongifolia
(Rattlesnake Plantain)

Characteristics: Perennial 6-16 in. tall, with a leafless flowering stem, and rosette of leaves. Leaves are 1-3 in. long, thick, oblong, and dark green with a central white stripe and mottled appearance that resembles a rattlesnake skin. Flowers are small, bilateral, greenish-white, hairy, and tubular. Flowers July-Sept.

Habitat: Mixed conifer forest.

Notes: Orchid seeds are dust-like and lack endosperm (food reserves). To get started in the wild, they need a compatible mycorrhizal fungus. Orchids grown commercially are germinated on sterile, nutrient-rich agar.

ORCHIDACEAE
Platanthera leucostachys
(Bog Orchid)

Characteristics: Perennial 1-3 ft. tall. Leaves are 2-12 in. long, lanceolate, clasping, and largest towards the middle of the stem. The white, bilateral flowers are numerous in long, terminal spikes. The upper sepal forms a hood with the 2 upper petals. The lower lip-like petal is widest at the base and abruptly narrows to a tongue-like tip. A long curved spur is located beneath the lip. Flowers June-Sept.

Habitat: Wetlands, seeps and springs.

Notes: Fragrant and showy. Green bog orchid, *P. hyperborea*, has greenish flowers and a short slender spur. Slender bog orchid, *P. stricta*, has greenish flowers and a club-shaped spur.

Flowers, Hardwood Trees, and Shrubs

ORCHIDACEAE
Spiranthes romanzoffiana
(Hooded Ladies Tresses)

Characteristics: Perennial 4-20 in. tall, with one or several stems in a clump. Leaves are mostly basal, narrow, and 2-10 in. long, smaller on the stem. Up to 60 small, white bilateral flowers are arranged in spiral rows on dense terminal spikes. The upper sepal and 2 upper petals form a curved tubular hood. The lower lip-like petal is short and curved downward. Flowers July-Oct.

Habitat: Moist meadows, wetlands, and streambanks.

Notes: Easy to identify because of the white spiraling inflorescence.

PAEONIACEAE
Paeonia brownii
(Western Peony)

Characteristics: Perennial 8-24 in. tall with fleshy roots. Leaves are fleshy, glaucous, up to 2½ in. long, and 2 times ternately divided into oblong lobes. Flowering stalks have 1 nodding globose flower. Flowers are 1-1½ in. wide, with greenish spoon-shaped sepals, 5 maroon to bronze oval petals, and numerous yellow stamens. Fruits are 5 leathery follicles with large, dark-coated seeds. Flowers April-June.

Habitat: Shrublands, dry meadows, ponderosa pine forest.

Notes: Not showy like ornamental peonies, but an interesting and easy to identify species.

POLEMONIACEAE
Collomia grandiflora
(Grand Collomia)

Characteristics: Annual ½-2 ft. tall, with a single erect, leafy, glandular stem. Leaves are entire and lanceolate to linear. Flowers are about 1 in. long, salmon to yellow-orange, and trumpet shaped with 5 fused petals, arranged in a head-like terminal cluster. Stamens are blue. Flowers May-Aug.

Habitat: Shrublands, open pine and mixed conifer forest.

Notes: This species is easy to identify because of the long tubular salmon colored flowers. It is often abundant after fires.

POLEMONIACEAE
Collomia linearis
(Tiny Trumpet)

Characteristics: Annual 4-16 in. tall, with a simple or branched, erect, leafy, sometimes glandular stem. Leaves are alternate, entire to slightly toothed, lanceolate to linear and usually sessile. Flowers are about ½ in. long, pink to bluish or white, and trumpet shaped with 5 fused petals, arranged in head-like clusters at the ends of the branches. Stamens are white. Flowers May-Aug.

Habitat: Moist to dry sites. Meadow edges, shrublands, open pine and mixed conifer forest.

Notes: *Collomia* comes from the Greek "kolla," which means glue, referring to the mucilagnious seeds that characterize this genus. When wet, they stick to the soil and are less likely to blow away.

Flowers, Hardwood Trees, and Shrubs

POLEMONIACEAE
Collomia tinctoria
(Yellow-staining Collomia)

Characteristics: Branched annual up to 6 in. tall with glandular hairs. Leaves are linear and ½-2 in. long. The small flowers are pink and trumpet shaped with 5 petals. Flowers are clustered in the leaf axils. Fruits are small capsules. Flowers June-Aug.

Habitat: Roadsides and openings in ponderosa pine or lodgepole pine forest.

Notes: This species can be seen at Crater Lake NP and Devil's Garden.

POLEMONIACEAE
Gilia capitata
(Blue-headed Gilia)

Characteristics: Annual ½-3 feet tall, with an erect, slender, single or sparingly branched stem. Leaves are largest at the base and gradually reduced up the stem, pinnately lobed into linear segments. Flowers are about ⅓ in. long, light blue, and funnel shaped, with 5 petals fused halfway. 50-100 flowers are arranged in dense, ball-like clusters on long leafless stalks. Flowers June-July.

Habitat: Shrublands and open pine forest.

Notes: Easy to indentify because of the round blue flower heads and leaves divided into narrow segments. This species can be seen along the Klamath River west of Keno.

POLEMONIACEAE
Ipomopsis aggregata
(Sky Rocket, Scarlet Gilia)

Characteristics: A short-lived perennial 1-3 ft. tall that dies after flowering once. Stems are erect and usually glandular. Leaves are dark green, 1-2 in. long, and pinnately lobed into 9-11 narrow segments, forming a basal rosette and becoming smaller up the stem. Flowers are in clusters in the upper leaf axils and at the tops of stems. Flowers are ¾-1¼ in. long and trumpet shaped, with 5 red to orange fused petals that have spreading lobes pointed at the tips. Flowers June-Sept.

Habitat: Shrublands, open pine and mixed conifer forest.

Notes: Hummingbirds often pollinate red flowers like sky rocket, while bees are more attracted to yellow and blue flowers.

POLEMONIACEAE
Ipomopsis congesta
(Ballhead Gilia)

Characteristics: Perennial 4-10 in. tall, branched and woody at the base with erect stems that are usually densely hairy. Leaves are hairy, less than 1 in. long and pinnately or palmately 3-5 lobed into narrow segments. Flowers are about ¼ in. long and short-tubular with 5 fused white petals. Flowers form head-like clusters ¾-1 in. wide. Flowers June-Aug.

Habitat: Shrublands and woodlands, to alpine slopes, often rocky or pumice soils.

Notes: Can be seen at Crater Lake NP. *Ipomopsis* and *Gilia* are closely related genera and the common name for both is usually "gilia."

Flowers, Hardwood Trees, and Shrubs

POLEMONIACEAE
Leptodactylon pungens
(Granite Gilia)

Characteristics: Dense or openly branched aromatic shrub 1-3 ft. tall, with slightly woody stems, sometimes hairy or glandular. Leaves grow in clusters along the stem, and are small and palmately divided into 5-9 stiff, pointed, linear lobes about ½ in. long. Flowers are about 1 in. long, white, cream, or pink to lilac with a narrow tube and 5 broad rounded lobes. Flowers May-June.

Habitat: Open rocky sites or pumice. Shrublands to high elevation.

Notes: Dead leaves usually persist on the plant, making it look ragged. *Pungens* means sharp pointed, referring to the leaves.

POLEMONIACEAE
Linanthus ciliatus
(Wisker Brush)

Characteristics: Hairy annual 1-12 in. tall. Leaves appear whorled, but are opposite and palmately divided into linear segments. Flowers are white to pink and trumpet shaped, with a long narrow tube up to 1 in. long, yellow throat and dark pink spot at the base of each lobe. Flowers are arranged in terminal heads that have linear bracts with long white hairs. Flowers June-July.

Habitat: Open gravelly or pumice soils.

Notes: *L. harknessii* has thread-like branched stems and white to pale blue funnel-shaped flowers not in a head.

POLEMONIACEAE
Navarretia intertexta
(Needle Navarretia)

Characteristics: Annual 2-6 in. tall with a hairy stem. Leaves are 1-2 times pinnate, smooth to white-hairy, and divided into narrow, sharp-pointed lobes about 1 in. long. Flowers are about ⅓ in. long and tubular with 5 fused white to pale blue petals that extend beyond the calyx. Flowers form spiny ball-like clusters ¾-1 in. wide that are white- woolly and have numerous pinnately lobed, needle-like bracts. Flowers June-Aug.

Habitat: Drying swales and mudflats, pond margins, and meadows.

Notes: Characterized by the spiny ball-like heads. *N. divaricata* has calyx lobes longer than the petals. *N. breweri* has yellow flowers.

POLEMONIACEAE
Phlox diffusa
(Spreading Phlox)

Characteristics: Taprooted perennial 4-12 in. tall forming shrubby mats, with smooth to hairy stems. Leaves are linear to lanceolate, sharp pointed, less than 1 in. long, sessile, and hairy at the base. Flowers are white, pink, or pale blue, and narrowly tubular, with 5 broad, pinwheel-like lobes. The calyx has long cobwebby hairs. Flowers are single at the ends of the branches. Flowers May-Aug.

Habitat: Shrublands, open forest, high elevation rocky slopes.

Notes: Looks similar to ornamental creeping phlox. Leaves are not as stiff and sharp pointed as *P. hoodii*, and the flowers are slightly larger.

Flowers, Hardwood Trees, and Shrubs

POLEMONIACEAE
Phlox gracilis
(Slender Phlox)

Characteristics: Annual 2-8 in. tall, with a branched or simple stem, usually glandular in the upper portion. Leaves are about 1 in. long, opposite, and lanceolate. Flowers are less than ¼ in. wide and pink with a yellow throat. The tube is narrow, and the 5 small lobes are notched at the tips. Flowers occur in terminal clusters. Flowers March-Aug.

Habitat: Open, dry to moist sites in meadows, shrublands, forest and disturbed areas.

Notes: Somewhat inconspicuous, but very widespread. Formerly called *Microsteris gracilis*. This species is an important food for young sage grouse.

POLEMONIACEAE
Phlox hoodii
(Spiny Phlox)

Characteristics: Taprooted perennial 4-8 in. tall, forming compact shrubby mats or cushions. Leaves are linear, stiff and sharp pointed, about ½ in. long, sessile, and hairy at the base. Flowers are mostly white (lavender), and narrowly tubular, with 5 broad, pinwheel-like lobes. The calyx has long cobwebby hairs. Flowers are single at the ends of the branches. Flowers May-July.

Habitat: Scablands, shrublands, and juniper woodlands.

Notes: This species mostly occurs east of Hwy 97 and can be seen near Gerber Reservoir.

POLEMONIACEAE
Polemonium occidentale
(Western Polemonium)

Characteristics: Perennial with an erect stem, ½-3 ft. tall from a rhizome. Lower leaves are up to 16 in. long and ladder-like, pinnately compound with 19-27 lanceolate leaflets. Upper leaves are similar but smaller. Flowers are sky blue with a tube about as long as the 5 lobes, arranged in crowded branched clusters near the top of the plant. Flowers June-Aug.

Habitat: Wetlands and streamsides.

Notes: Polemoniums are also called “Jacob’s ladder” or “sky pilot” and several species are grown ornamentally.

POLEMONIACEAE
Polemonium pulcherrimum
(Jacob's Ladder)

Characteristics: Perennial 2-12 in. tall from a slender rhizome, with clusters of erect, usually glandular hairy stems. Leaves are ladder-like, pinnately compound with 11-23 opposite or offset ovate leaflets per leaf. Flowers are sky blue with a yellow throat, the tube about as long or shorter than the 5 lobes. Flowers are in dense, branched, terminal clusters. Flowers July-Aug.

Habitat: Moist, cold forest. High elevation pumice and rock crevices.

Notes: This plant has a skunky odor when crushed. The montane plants shown are larger than those found at high elevation and may be a different variety.

Flowers, Hardwood Trees, and Shrubs

POLYGONACEAE
Eriogonum elatum
(Tall Buckwheat)

Characteristics: Perennial 2-4 ft. tall. Leaves have long petioles and are dark green, basal, broadly lanceolate, up to 10 in. long, and covered with felt-like hairs. The inflorescence is large, open, and branched at the top of long leafless stems. Flowers are small and white to pink, occurring in multiple small clusters. Flowers June-July.

Habitat: Juniper and pine woodlands, especially south or west-facing rocky slopes.

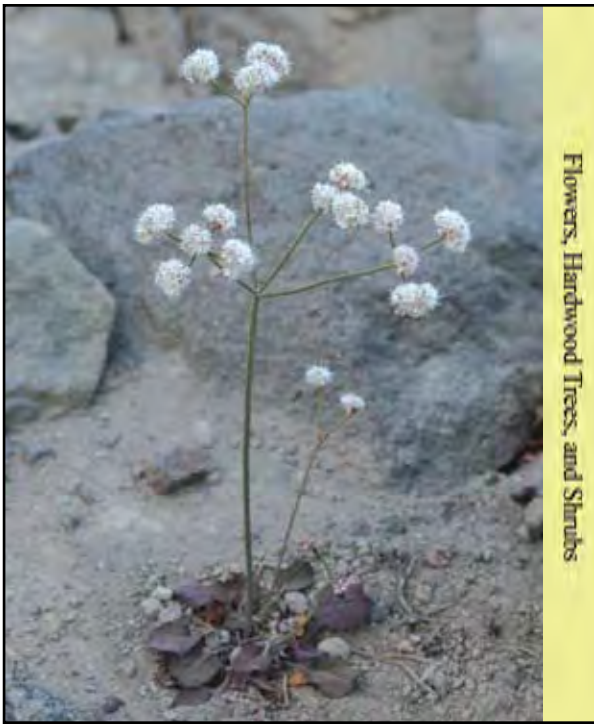
Notes: Common at Modoc Rim. Can be identified by the tall stems and large leaves.

POLYGONACEAE
Eriogonum nudum
(Barestem Buckwheat)

Characteristics: Perennial 1-2 ft. tall with a basal rosette of leaves. Leaves have long petioles, and are dark green, oblong to oval, and about 1 in. across, with matted white hairs. The inflorescence is open and branched at the top of bare stems. Flowers are small and cream to yellow, forming round flower clusters about ¾ in. wide. Flowers July-Aug.

Habitat: Dry, bare, sandy, or rocky habitats.

Notes: This buckwheat is easily recognized by its basal rosette of quarter-sized, dark-green leaves. It is sometimes found in cinder quarries and is common along roadsides.

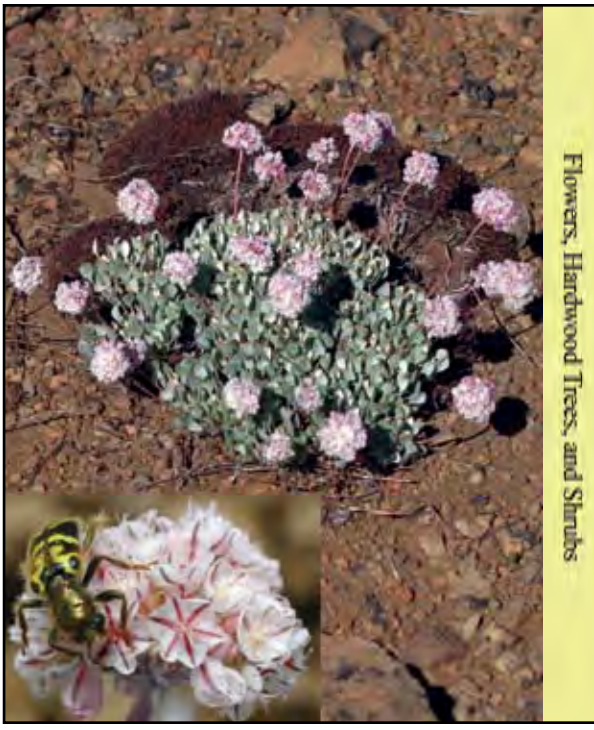


POLYGONACEAE
Eriogonum ovalifolium
(Cushion Buckwheat)

Characteristics: Perennial forming mats up to 1 ft. across. Leaves have long petioles, and are oval, about ½-¾ in. long, grayish-green, and covered with felt-like hairs on both surfaces. The pompom-like flower clusters are about 1 in. wide, located at the ends of unbranched leafless stems 2-5 in. tall. Flowers are small, white to pink, and often red striped, or sometimes yellow. Flowers June-July.

Habitat: Rocky flats, talus, and pumice slopes at all elevations.

Notes: This species can be seen at Devil's Garden and Crater Lake NP, but is more common in Lake County, where the flowers are often yellow.



POLYGONACEAE
Eriogonum pyrolifolium
(Shasta Buckwheat)

Characteristics: Perennial up to 6 in. tall from a woody caudex, which is often exposed when growing in loose soil. The ovate leaves are 1-2 in. long, yellow green, and generally fuzzy beneath. The inflorescence is head or umbel-like, located at the ends of unbranched leafless stalks. Flowers are small and white to pink or reddish. Flowers July-Aug.

Habitat: Open, high elevation rocky ridges, pumice, and talus. Common at Crater Lake NP.

Notes: This plant has a strong smell that some refer to as "stinky socks."

Flowers, Hardwood Trees, and Shrubs

POLYGONACEAE
Eriogonum sphaerocephalum
(Rock Buckwheat)

Characteristics: Low-growing shrub about 1 ft. tall and 2 ft. across. Leaves are oblanceolate, ½-1 in. long, green on top and pale below, covered with felt-like hairs on both surfaces (especially the lower), and arranged in whorls on the stem. The small cream to yellow or pinkish flowers form rounded heads about 1-2 in. wide. The heads are single or grouped in umbels, with a whorl of leaf-like bracts beneath, on stems 2-6 in. long. Flowers June-July.

Habitat: Scablands, juniper woodlands, and other dry rocky areas.

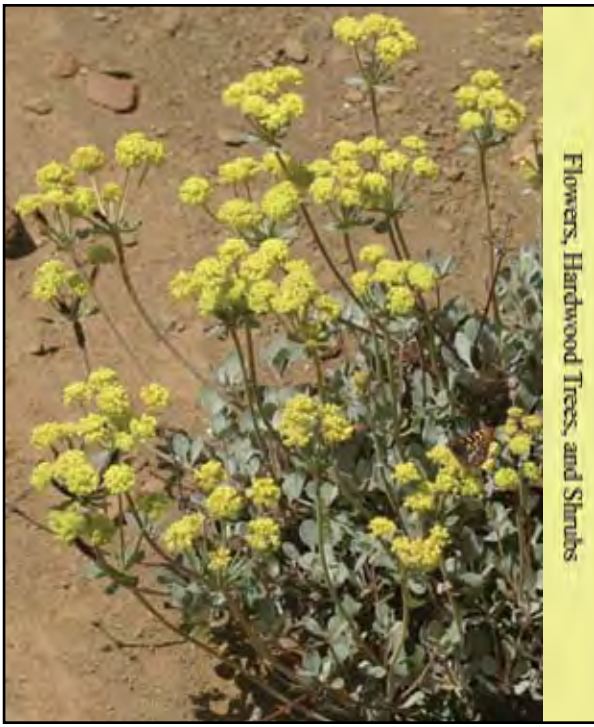
Notes: This species is common in dry places throughout the basin, especially Devil's Garden.

POLYGONACEAE
Eriogonum umbellatum
(Sulphur Buckwheat)

Characteristics: Low growing perennial forming mats up to 2 ft. across. Leaves are oval, about ½-1 long, green on top and pale below, covered with felt-like hairs on both surfaces (especially the lower), and arranged in whorls. The (usually) bright yellow flowers form rounded heads about 1 in. wide. The heads are grouped in umbels, with a whorl of leaf-like bracts beneath, on stems about 5-10 in. long. Flowers June-July.

Habitat: Open pumice or rocky sites, from shrublands to alpine slopes. Widespread.

Notes: The most common of our buckwheats and reportedly one of the most variable species in western North America.

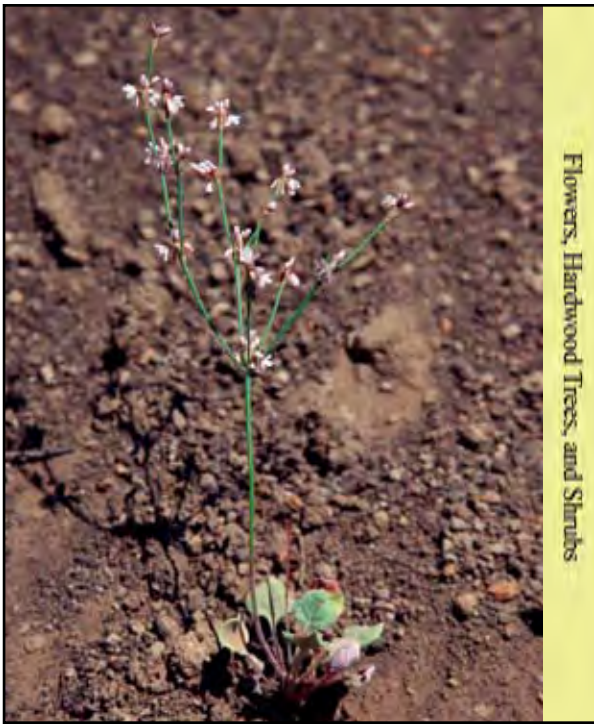


POLYGONACEAE
Eriogonum vimineum
(Wickerstem Buckwheat)

Characteristics: Slender annual 2-12 in. tall with leaves in a rosette. The rounded leaves have long stalks and are woolly beneath. The inflorescence is branched with tiny few-flowered clusters. Flower clusters have no stalks and are located at the tips and along the sides of the branches. Petals are white to pink with dark stripes. Flowers June-July.

Habitat: Open sites with gravelly, cinder, or pumice soils.

Notes: Another small annual buckwheat in our area, *E. spergulinum*, has narrow leaves that are located both on the stem and at the base.



POLYGONACEAE
Polygonum amphibium
(Water Smartweed)

Characteristics: A terrestrial, emergent, or floating perennial from a rhizome. The leafy stems are usually prostrate and root at the nodes. Leaves are lanceolate to ovate and up to 6 in. long. Flowers are pink to rose and arranged in dense spike-like panicles. Fruits are dark, smooth, shiny, and flattened, about ⅛ in. long. Flowers June-Sept.

Habitat: Wetlands, ditches, and other places with slow moving water.

Notes: Also called "knotweeds," several *Polygonum* species occur in our area, ranging from small annuals to showy perennials. Look for a 5-parted perianth, swollen nodes (knots), and papery stipules that surround the stem at the base of each leaf.

Flowers, Hardwood Trees, and Shrubs

POLYGONACEAE
Polygonum bistortoides
(American Bistort)

Characteristics: Perennial from a short rhizome with unbranched flowering stems about 1-2 ft. tall. Basal leaves are leathery, oblong to strap-like, and up to 6 in. long with long petioles. Numerous small, white to pinkish, 5-petaled flowers occur in dense, rounded clusters 1-2 in. long, located at the top of long stalks with a few small leaves. Flowers May-July.

Habitat: Meadows, streamsides, springs, and other sunny wetlands at all elevations.

Notes: Often occurs with bog orchid, arrowleaf groundsel, sedges and rushes. Widespread.

POLYGONACEAE
Rumex acetosella
(Sheep Sorrel, Sour Weed)

Characteristics: Branched perennial up to 1 ft. tall, with reddish stems and spreading rhizomes. Leaves are 1-2 in. long, and arrowhead shaped, largest at the base and smaller above. Flowers are small and reddish in open terminal panicles. Male and female flowers occur on separate plants. Fruits are glossy 3-angled achenes, becoming rusty-brown at maturity. Flowers June-Aug.

Habitat: Disturbed, often moist or gravelly sites; roadsides, fields, streamsides, and pastures.

Notes: An introduced weed from Europe, common along the Westside Road and other disturbed places. The leaves are sour like rhubarb and are sometimes used in salads.

POLYGONACEAE
Rumex crispus
(Curly Dock)

Characteristics: Perennial 2-3 ft. tall, with reddish or yellow stems from a stout taproot. Leaves are narrowly oblong to lanceolate, about 1-2 ft. long at the base, with strongly wavy to curled margins. Flowers are small, green to reddish, in dense, narrow, leafy-bracted panicles on the upper stem and branches. Flowers June-Aug.

Habitat: Disturbed, often moist sites; roadsides, fields, streamsides, and pastures.

Notes: A non-native weed common at lower elevations. It frequently occurs in pastures where livestock avoid it. Plants remain upright and turn reddish brown at the end of the growing season.

PORTULACACEAE
Calyptridium umbellatum
(Pussypaws)

Characteristics: Low-growing perennial with a branched caudex forming small mats. Leaves are 2-3 in. long, dark, shiny and spoon shaped, forming flat basal rosettes. Flowers are numerous in dense, rounded, head-like clusters about 1-2 in. across, located at the top of long, sprawling stalks. Flowers are small and white to cream or pink, with 2 rounded papery sepals and 4 smaller petals. Flowers May-July.

Habitat: Dry, sandy, pumice, or rocky slopes and flats at all elevations. Widespread.

Notes: Formerly called *Spraguea umbellata*. This species is common at Devil's Garden and at Crater Lake NP. Its odor is unpleasant.

Flowers, Hardwood Trees, and Shrubs

PORTULACACEAE
Claytonia lanceolata
(Western Spring Beauty)

Characteristics: Perennial up to 6 in. tall from a small tuber. Stem leaves are 1-2 in. long, lanceolate to ovate, dark green, fleshy, opposite, and sessile. One or two narrow to oblanceolate basal leaves may also be present. Flowers are about ½ in. wide, with 2 sepals and 5 white petals usually striped with pink. Flowers May-June.

Habitat: Rocky slopes and flats to subalpine meadows.

Notes: This attractive species is common at Crater Lake NP, flowering right after snow melt.

PORTULACACEAE
Claytonia perfoliata
(Miner's Lettuce)

Characteristics: Fleshy annual 3-8 in. tall, with multiple stems and often a reddish coloration. Basal leaves have long petioles and narrowly elliptical to triangular blades. The single pair of stem leaves fuse at the base to encircle the stem. Flowers have 2 sepals and 5 notched white to pink petals. Fruits are small capsules with small black shiny seeds. Flowers April-July.

Habitat: Ponderosa pine and mixed conifer forest, generally shaded by other plants or rocks.

Notes: This and other species of miner's lettuce are common spring annuals that are somewhat weedy. The entire plant is edible and has a slightly salty taste.

PORTULACACEAE
Lewisia pygmaea
(Alpine Lewisia)

Characteristics: Stemless perennial with a carrot-shaped root. Leaves are linear and fleshy 1-4 in. long. Flowers are small and single on leafless stems that are usually shorter than the leaves. Flowers have 2 sepals and 6-9 white to pink, often striped, petals. Fruits are small capsules. Flowers May-Aug.

Habitat: Rocky, gravelly sites; either moist locations, or high elevation.

Notes: Can be seen around the seasonal ponds on Modoc Rim and in Sky Lakes Wilderness.

PORTULACACEAE
Lewisia rediviva
(Bitterroot)

Characteristics: Stemless perennial from a branched, fleshy taproot, with a cluster of fleshy leaves that wither before flowering. Leaves are 1-2 in. long, linear, and rounded. Flowers are 1-2 in. wide, with 6-9 white to dark pink sepals and 12-18 white to pink petals. Flowers are single on short stalks, appearing as if they are growing right out of the ground. Flowers May-July.

Habitat: Dry clay or gravelly soils at all elevations.

Notes: Common at Devil's Garden. Named for Meriwether Lewis who made the first collection in the Bitterroot Mts. of Montana. Plants with pink to rose colored flowers occur north of our area.

Flowers, Hardwood Trees, and Shrubs

PORTULACACEAE
Montia linearis
(Narrow-leaved Miner's Lettuce)

Characteristics: Annual 2-8 in. tall with a single or branched stem. Leaves are alternate, linear, thick, fleshy, and ½-2 in. long. The small white to pink flowers have 2 sepals and 5 petals. Flowers are arranged in 1-sided racemes at the ends of the branches or in the leaf axils. Fruits are small capsules with lens-shaped black shiny seeds. Flowers May-July.

Habitat: Moist, often sandy soils, in meadows and woodlands.

Notes: *Montia* and *Claytonia* are similar genera. *Claytonia* species tend to have leaves at the base with 1 pair of stem leaves, while *Montia* species have more leafy stems.

PRIMULACEAE
Dodecatheon conjugens
(Desert Shooting Star)

Characteristics: Perennial to about 6 in. tall. Leaves are basal, lanceolate to obovate, and entire. Flowers are in groups of 1-10, nodding on leafless stalks. Flowers have 4-5 reflexed (bent backward) lavender to purple petals, small green sepals, and dark maroon, forward-pointing stamens that are transversely wrinkled. The stamens form a tube around the protruding stigma. Flowers April-June.

Habitat: Meadows, scablands, seasonal streams, and other seasonally moist habitats.

Notes: This attractive plant is relatively common in seasonally wet areas and flowers early in the spring.

PRIMULACEAE
Dodecatheon jeffreyi
(Sierra Shooting Star)

Characteristics: Glandular hairy perennial to about 1 ft. tall. Leaves are basal and oblanceolate, with a winged petiole and entire to toothed margins. Flowers are in groups of 3-8, nodding on leafless stalks. Flowers have 4-5 reflexed (bent backward) magenta to lavender petals, small green sepals, and dark maroon, forward-pointing stamens, wrinkled or smooth. The stamens form a tube around the protruding stigma. Flowers July-Aug.

Habitat: Meadows, seeps, and springs in the Cascades.

Notes: Alpine shooting star, *D. alpinum*, is smaller, has narrower leaves, and is not glandular on the stem.

PRIMULACEAE
Trientalis latifolia
(Pacific Starflower)

Characteristics: Perennial about 4-6 in. tall from an elongated tuber. Leaves are 1-4 in. long, in a whorl of 3-8 elevated on the stem, and broadly obovate to elliptic with a pointed tip. Flowers occur singly on slender stalks above the leaves. Flowers are about ½ in. wide with 5-7 white to pink, pointed, star-like, petals. Flowers June-July.

Habitat: Mixed conifer forest. Widespread in the Cascades.

Notes: This species can be identified by the whorl of leaves above the ground and odd number of petals.

Flowers, Hardwood Trees, and Shrubs

RANUNCULACEAE
Aconitum columbianum
(Monkshood)

Characteristics: Perennial 1-7 ft. tall from a rhizome or tuber. Leaves are 2-8 in. wide and palmately lobed with 3-5 deep clefts and jagged teeth. Flowers are blue to violet and bilaterally symmetrical. There are 5 petal-like sepals. The upper sepal forms a helmet-like hood over numerous purple stamens and the upper 2 petals. The 2 lateral sepals are rounded, and the two lower sepals lanceolate. The lower 3 petals are absent or small scales. Flowers June-Aug.

Habitat: Wetlands, springs, and streamsides. Widespread.

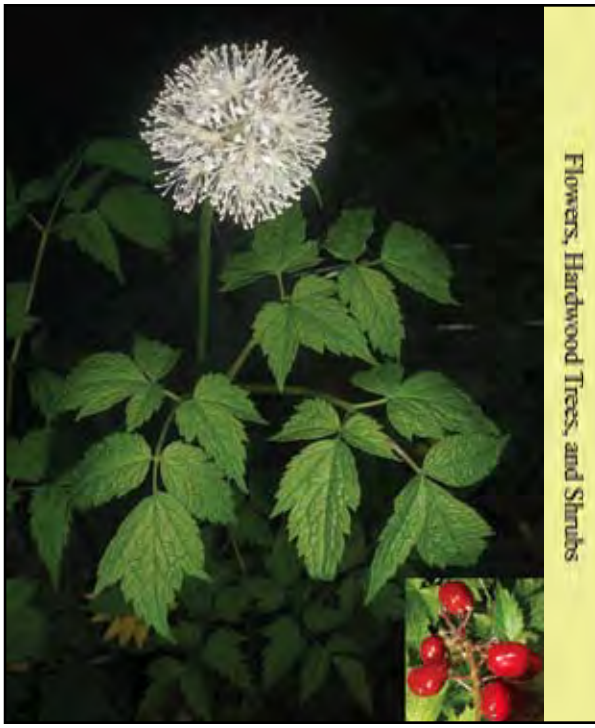
Notes: Toxic to livestock and humans. Mountain larkspur also grows in wet habitats and has similar leaves, but its blue-purple flowers have a spur.

RANUNCULACEAE
Actaea rubra
(Baneberry)

Characteristics: Perennial with 1-several branched stems up to 3 ft. tall. Leaves are up to 2 ft. long and pinnately divided 2-3 times into large toothed leaflets. Flowers are small and white, arranged in racemes located at the ends of the branches or in the leaf axils. Fruits are ¼-½ in. long red or sometimes white berries. Flowers June-July.

Habitat: Moist shady sites, usually streamsides.

Notes: This species gets its common name from the poisonous fruits. All parts of the plant are reported to be toxic.



RANUNCULACEAE
Anemone deltoidea
(Columbian Windflower)

Characteristics: Perennial 4-12 in. tall from a slender rhizome. There is a single flower per stem with a whorl of 3 ovate leaves below, and 0-few basal leaves. Basal leaves are divided into 3 oval leaflets (similar to the stem leaves), lobed or coarsely toothed. The flower has 5 white petal-like sepals ½-1 in. long, no petals, and numerous stamens and pistils. Flowers April-June.

Habitat: Moist mixed conifer forest.

Notes: Sometimes confused with trillium, which has large entire leaves, and flowers with 3 petals. Can be seen at Lake of the Woods and the Sevenmile Guard Station.

RANUNCULACEAE
Anemone lyallii
(Western Wood Anemone)

Characteristics: Slender perennial 4-12 in. tall from a slender rhizome. There is a single flower per stem with a whorl of 3 compound leaves below and 0-few basal leaves. The thin leaves have long petioles and are ternately divided into 3 lobed leaflets. The flower has 5 white, bluish or pink petal-like sepals ¼ in. long, no petals, and numerous stamens and pistils. Flowers April-July.

Habitat: Mixed conifer forest, meadow edges. Widespread.

Notes: Oregon anemone, *A. oregana*, has ternately compound leaves on the stem, with the lateral leaflets deeply lobed, and larger flowers with 35-100 stamens.

Flowers, Hardwood Trees, and Shrubs

RANUNCULACEAE
Anemone occidentalis
(Western Pasque Flower)

Characteristics: A grayish-green hairy perennial ½-2 ft. tall from a stout caudex. The compound leaves are divided into many linear segments. Basal leaves have long petioles and the upper whorl of leaves very short (no) petioles. There is 1 large white to purplish bowl-shaped flower per stem, with 5 to many petal-like sepals and numerous stamens and pistils. Fruits are numerous achenes with long plume-like styles; collectively they resemble an upturned mop. Flowers June-Sept.

Habitat: Subalpine and alpine rocky slopes and meadows.

Notes: The mop-like fruits make this species distinctive. It can be seen along roads at Crater Lake NP.

RANUNCULACEAE
Aquilegia formosa
(Red Columbine)

Characteristics: Perennial 1-4 ft. tall from a thick caudex, with single or branched stems. Basal and lower stem leaves are 2-3 times ternate, divided into wedge-shaped leaflets ¾-1½ in. long. Flowers are about 2 in. wide and nodding, with 5 red petal-like sepals, 5 yellow petals with long red spurs, and many protruding yellow stamens. Fruits are 5 follicles with small dark seeds. Flowers June-Aug.

Habitat: Moist forest, streamsides, springs, and seeps.

Notes: The bright red flowers produce nectar in the spurs and attract hummingbirds. Columbines are easy to grow from seed.

RANUNCULACEAE
Caltha leptosepala var. biflora
(Marsh Marigold)

Characteristics: Perennial 1-8 in. tall from a short caudex. Leaves are 1-3 in. long, fleshy, and round to kidney shaped with minutely scalloped edges. The flowers are large, ½-1½ in. wide, and solitary on leafless stems. Flowers have 5-12 white petal-like sepals, 5-10 pistils, and numerous stamens. Flowers May-Aug.

Habitat: Marshes, ponds, wet meadows, springs, and streamsides in the mountains.

Notes: The round leaves are easy to identify. Can be seen near the Cold Springs Trailhead.

RANUNCULACEAE
Delphinium nuttallianum
(Bilobed Larkspur)

Characteristics: Perennial 4-16 in. tall from fleshy or fibrous roots with a single stem. Leaves are few, mostly basal, up to 3 in. wide, and palmately divided 2-4 times into narrow lobes with pointy tips. Flowers are bilateral, about 1 in. wide, and grow in open racemes. The 5 sepals are blue-purple and form a backward pointing spur. The 2 upper petals are white with purple veins. The 2 lower petals are blue-purple and 2 lobed. Flowers April-July.

Habitat: Shrublands, ponderosa pine forest, and meadow edges. Common around Klamath Falls.

Notes: Several larkspurs occur in the basin and can be hard to distinguish because of their similarity and variability. Most species are toxic, especially to cattle.

Flowers, Hardwood Trees, and Shrubs

RANUNCULACEAE
Delphinium occidentale
(Mountain Larkspur)

Characteristics: Perennial 2-6 ft. tall from a thick woody root, with several smooth or hairy stems. Leaves are 2-6 in. wide and largest at the base. Leaves are palmately lobed and again divided into smaller toothed lobes. Flowers are bilateral, about 1 in. wide, and grow in dense racemes. The 5 sepals are blue-purple, often streaked with white, and form a backward pointing spur. The 2 upper petals are white to pale blue. The 2 lower petals are pale to deep blue. Flowers June-Aug.

Habitat: Streamsides, springs, and seeps.

Notes: The large size and wet habitats make this species distinctive. It can be seen along the Cherry Creek Trail.

RANUNCULACEAE
Ranunculus alismifolius
(Plantainleaf Buttercup)

Characteristics: Perennial 1-3 ft. tall with fibrous roots. Stems are branched and often sprawling, with entire, shiny green, lanceolate, leaves. Basal leaves are oblong, lanceolate, or narrowly ovate with long petioles. The flowers have 5-12 shiny yellow petals and numerous stamens and pistils. Fruits are smooth achenes with a short straight point. Flowers May-July.

Habitat: Streambanks, pond edges, and wet meadows.

Notes: This is one of the first plants to flower in wet meadows in the spring. It can be seen at Dry Lakes on Modoc Rim.

RANUNCULACEAE
Ranunculus aquatilis
(Aquatic Buttercup)

Characteristics: Submerged to floating hairy aquatic perennial. Submerged leaves are finely divided into long thread-like segments. Floating leaves are divided into 3 main lobes. Flowers have 5 white petals, often with a yellow base, and 10-15 pistils and stamens. Achenes have cross-ridges. Flowers June-Aug.

Habitat: Shallow water in marshes, ponds, and lakes.

Notes: Leaves of submerged aquatic plants are often finely divided, which maximizes their surface area and increases absorption of carbon dioxide. Fine leaves also have less resistance to flowing water.

RANUNCULACEAE
Ranunculus glaberrimus
(Sagebrush Buttercup)

Characteristics: Perennial 2-10 in. tall from a cluster of thick roots. The leaves are fleshy, ½-2 in. long, mostly basal, and vary from elliptic to nearly round, often with 3 lobes. The flowers are ¾-1¼ in. wide, with 5-8 shiny yellow petals and numerous stamens and pistils. Fruits are lightly hairy achenes with a small straight point. Flowers March-June.

Habitat: Shrublands and ponderosa pine forest.

Notes: Buttercups have small nectaries at the base of the petals to attract insect pollinators. The size and shape of the nectary varies by species.

Flowers, Hardwood Trees, and Shrubs

RANUNCULACEAE
Ranunculus occidentalis
(Western Buttercup)

Characteristics: Perennial 6-16 in. tall from slender fibrous roots. The stem is erect, branched, and hairy. Leaves are hairy, 1-2 in. wide, and ovate, with 3 deep wedge-shaped lobes, toothed to deeply cut. Petioles are long on basal leaves, shorter above. The flowers have 5 shiny yellow petals and numerous stamens and pistils. Fruits are flattened achenes with a hooked point. Flowers April-June.

Habitat: Meadows, seasonally moist flats, and open woodlands.

Notes: This buttercup is easy to identify, because of the hairy deeply lobed leaves.

RANUNCULACEAE
Ranunculus testiculatus
(Bur Buttercup)

Characteristics: Small gray-hairy annual 1-2 in. tall with a leafless stem. Leaves are basal, about 1 in. wide, and ternately divided 1-2 times into linear segments. Flowers are about ¼ in. wide, pale yellow and urn shaped, with 2-5 petals and numerous stamens and pistils. Fruits are in cylindrical clusters about ½ in. long. The achenes have long sharp points with bulges on either side at the base. Flowers March-June.

Habitat: Dry, disturbed sites.

Notes: A weedy non-native species. The head-like clusters of sharp-pointed achenes are painful to step on and give this plant its name.

RHAMNACEAE
Ceanothus prostratus
(Mahala Mat)

Characteristics: Low growing evergreen shrub forming large mats. Leaves are ½-1½ in. long, oblong, opposite, stiff, and look similar to holly leaves with large pointed teeth. Flowers are about ⅛ in. wide and pale purple, arranged in short, dense clusters. Fruits are small brown capsules with 3 horns. Flowers May-July.

Habitat: Open ponderosa pine and mixed conifer forest, often along roadcuts.

Notes: The fragrant purple flowers are a favorite of bees and other insects. Another *Ceanothus*, buckbrush (*C. cunneatus*), is an evergreen shrub with stiff, spine-tipped branches and small, thick, oblong leaves found along the Klamath River.

RHAMNACEAE
Ceanothus velutinus
(Snowbrush)

Characteristics: Evergreen shrub 2-10 ft. tall with smooth green stems. Leaves are 2-4 in. long, ovate to elliptic, finely toothed, alternate, shiny green above, and lighter below with three obvious veins. The 5-petaled flowers are small, white (like snow), fragrant, and grow in dense clusters at the ends of the branches, or in the leaf axils. Fruits are capsules with three seeds. Flowers May-July.

Habitat: Mixed conifer forest, especially after disturbance.

Notes: Foliage has a pleasant smell. Fixes nitrogen and can be abundant after a hot fire, germinating from seed buried in the soil for over 100 years. Deerbrush, *C. integerrimus*, is similar, but deciduous, and has white to blue lilac-like flowers. Deerbrush occurs along the Klamath River.

Flowers, Hardwood Trees, and Shrubs

RHAMNACEAE
Rhamnus purshiana
(Cascara)

Characteristics: Shrub or small tree 3-15 feet tall with smooth silver-gray bark. Leaves are 2-5 in. long, ovate, alternate, and dark shiny green, with 8 or more pairs of distinct veins that make the leaf feel grooved. Flowers grow in clusters of 8-50 and are small and greenish-yellow, with 5 tiny hooded petals. The fruit is a dark blue to black berry ⅓ in. long. Flowers May-June.

Habitat: Streamsides or rocky sites at high elevation.

Notes: The dried bark is used as a strong laxative. Another species, *R. alnifolia*, grows in wet areas, has thin leaves with fewer veins, and has petal-less flowers in clusters of 1-3.

ROSACEAE
Amelanchier alnifolia
(Serviceberry)

Characteristics: Shrub or small tree 3-15 ft. tall. Bark is smooth and stems are reddish brown to dark gray. Leaves are 1-1½ in. long, alternate, and oblong to elliptic, with teeth on the upper half. Flowers have 5 narrow petals ½-¾ in. long, and are arranged in clusters of 3 to 20. Fruits are red to purple berries ½ in. long. Flowers May-June.

Habitat: Juniper woodlands, ponderosa pine and mixed conifer forest. Widespread.

Notes: Berries are edible and tasty and used to make jam and wine. The teeth on the upper half of the leaf and long petals distinguish this shrub from *Prunus* species.

ROSACEAE
Cercocarpus betuloides
(Birch-leaf Mountain Mahogany)

Characteristics: Evergreen shrub or tree 6-25 ft. tall. Bark is reddish brown to gray, becoming scaly with age. Leaves are alternate, 1-3 in. long, obovate, entire to toothed, and thick, with 4-10 prominent veins. Flowers are greenish-white and cup-like, with no petals, 25-45 yellow stamens, and a single pistil. Fruits are single achenes with a persistent, long, coiled, white-hairy style attached. Flowers April-June.

Habitat: Juniper and ponderosa pine woodlands, often on rocky ridges.

Notes: The long, coiled style twists as it absorbs moisture and dries out, "screwing" the seed into the soil. This species is more fire tolerant than curl-leaf mountain mahogany and less abundant.

ROSACEAE
Cercocarpus ledifolius
(Curl-leaf Mountain Mahogany)

Characteristics: Evergreen shrub or tree 10-30 ft. tall. Bark is reddish brown to gray, becoming furrowed and rough with age. Leaves are alternate, up to 1½ in. long, narrow, and thick, with the edges rolled under. Flowers are greenish-white and cup-like, with no petals, 15-25 yellow stamens, and a single pistil. Fruits are single achenes with a persistent, long, coiled, white-hairy style attached. Flowers April-June.

Habitat: Juniper and ponderosa pine woodlands, often around scablands and on rocky slopes.

Notes: Similar to *C. betuloides*, but the leaves are narrower and rolled under. Both species provide important winter browse for wildlife and can be seen at Lava Beds NM and on Modoc Rim.

Flowers, Hardwood Trees, and Shrubs

ROSACEAE
Chamaebatiaria millefolium
(Fern Bush)

Characteristics: Aromatic, glandular shrub up to 6 ft. tall. Leaves are 2-3 in. long, and fern-like: pinnately divided and lobed. The small white flowers have 5 rounded petals and are arranged in leafy panicles. Fruits are 5 small leathery follicles. Flowers June-July.

Habitat: Rocky sites in low elevation shrublands.

Notes: This plant often occurs on lava flows and can be seen at Lava Beds NM.

ROSACEAE
Fragaria vesca
(Wood Strawberry)

Characteristics: Perennial up to 6 in. tall with trailing stems. Leaves are yellow green and divided into three toothed leaflets, with prominent veins and hairs on the upper surface. Flowers are ½ in. wide, with 5 white petals in clusters of 3-11 on stalks usually taller than the leaves. Fruits are small, sweet, red strawberries about ⅓ in. long. Flowers April-June.

Habitat: Occurs in most forest types, often in disturbed areas. Widespread.

Notes: Similar to *F. virginiana* (wild strawberry); the yellow-green color, distinctive veins on the leaves, and tall flower stalks distinguish this species. Both strawberries occur along the High Lakes Trail.

ROSACEAE
Fragaria virginiana
(Wild Strawberry)

Characteristics: Perennial up to 6 in. tall with trailing stems. Leaves are blue-green and divided into three toothed leaflets, without prominent veins and hairs on the upper surface. Flowers are ½ in. wide, with 5 white petals in clusters of 2-15 on stalks usually shorter than the leaves. Fruits are small, sweet, red strawberries about ⅓ in. long. Flowers April-June.

Habitat: Occurs in most forest types, often in disturbed areas. Widespread.

Notes: This species occurs across the United States. Very similar to *F. vesca*, but the leaves are bluish-green and lack prominent veins. Dried leaves and flowers can be made into tea.

ROSACEAE
Geum triflorum
(Old Man's Whiskers)

Characteristics: Perennial 12-20 in. tall. Leaves are mostly basal, 2-6 in. long, obovate, gray hairy, and pinnately compound, the leaflets widely spaced and further lobed and toothed. Flowers grow in clusters of 1-9 on tall stems with a pair of opposite leaves. Flowers are cup-like, with 5 yellow to pink or reddish sepals and petals, and 5 spreading petal-like bracts beneath. Fruits are achenes with persistent long, feathery, plume-like styles. Flowers June-Aug.

Habitat: Shrublands, meadow edges, and open ponderosa pine forest.

Notes: Named for the feathery plumes on the fruits. Another species, *G. macrophyllum*, grows in wetlands and has similar leaves up to 1 ft. long with large terminal leaflets.

Flowers, Hardwood Trees, and Shrubs

ROSACEAE
Holodiscus discolor
(Oceanspray)

Characteristics: Shrub 3-9 ft. tall. Bark and stems are grayish red. Leaves are 1-4 in. long, alternate, dull green above, white-hairy below, and triangular to ovate, with shallow lobes and teeth. Flowers are ¼ in. wide with 5 white petals, arranged in dense terminal panicles that droop. The inflorescence turns brown and lasts into winter. Flowers June-July.

Habitat: Mixed conifer forest. Abundant around Rocky Point.

Notes: A showy ornamental and also a favorite forage species for wildlife. *H. microphyllus* is a smaller shrub with toothed obovate leaves found on high elevation rocky ridges.

ROSACEAE
Horkelia fusca
(Dusty Horkelia)

Characteristics: Perennial 6-12 in. tall and usually glandular, with a distinct resinous scent. Leaves are mostly at the base, 4-8 in. long, and pinnately compound, with wedge-shaped or obovate leaflets further divided and fern-like. Flowers are in clusters of 5-20 at the top of few-leaved stalks. Flowers are about ½ in. wide and have 5 white to pinkish heart or wedge-shaped petals broadest at the end. Flowers June-Aug.

Habitat: Meadow edges, open lodgepole pine, ponderosa pine, and mixed conifer forest.

Notes: Often grows in patches. The distinctive leaves and petal shape help identify this species. Found along the High Lakes Trail.

ROSACEAE
Luetkea pectinata
(Partridge Foot)

Characteristics: Evergreen, trailing, semi-shrub with flowering stalks up to 6 in. tall. Leaves are shiny dark green, crowded at the base, and ternately divided from the middle like toes on a bird's foot. Flowers are in terminal clusters. Flowers have 5 white petals, a yellow center, and about 20 protruding stamens. Fruits are leathery follicles. Flowers June-Aug.

Habitat: Subalpine to alpine meadows and rocky ridges.

Notes: A common plant of high elevation slopes. Can be seen at Crater Lake NP. Previously named *Spiraea pectinata*.

ROSACEAE
Potentilla glandulosa
(Sticky Cinquefoil)

Characteristics: Glandular, hairy perennial 6-24 in. tall. Leaves are mostly basal, 2-6 in. long, and pinnately compound, the 5-9 ovate leaflets widely spaced and further lobed and toothed. Flowers are in open branched clusters at the top of few-leaved stalks. Flowers are cup shaped and about ½ in. wide with 5 yellow petals. Flowers June-Aug.

Habitat: Shrublands, pine and mixed conifer forest, meadow edges, and high elevation rocky slopes.

Notes: *P. gracilis*, 5-fingered cinquefoil has similar flowers, but palmately lobed leaves. Both sticky and five-fingered cinquefoil are variable species with several named varieties.

Flowers, Hardwood Trees, and Shrubs

ROSACEAE
Potentilla gracilis
(Five-finger Cinquefoil)

Characteristics: Hairy perennial 1-2½ ft. tall. Leaves are mostly basal, 2-6 in. wide, dark green on top, hairy beneath, and palmately divided into 5-9 oblong, lobed or toothed leaflets. Flowers are in open branched clusters at the top of few-leaved stalks. Flowers are cup shaped and about ½ in. wide with 5 yellow petals. Flowers June-Aug.

Habitat: Open forests and meadows. Increases in heavily grazed meadows.

Notes: Other species of cinquefoil occur in the area. *P. anserina* is a common meadow species with trailing stems and silvery-haired pinnate leaves.

ROSACEAE
Prunus emarginata
(Bittercherry)

Characteristics: Shrub or small tree 3-15 ft. tall, with reddish bark marked with horizontal lines (a trait of *Prunus*). Leaves are alternate, 1-3 in. long, and oblong to obovate, with finely toothed edges and blunt tips. Small glands are located at the base of the leaf on either side of the petiole. The 5-petaled flowers are white to pink and form a flat cluster of 5-8. Fruits are bright red, bitter drupes, about ⅓ in. wide. Flowers April-June.

Habitat: Rocky ridges, burns, roadsides, riparian areas, low to upper elevation.

Notes: Re-sprouts after fires and is often found with chokecherry. The name *emarginata* comes from the small glands at the base of the leaf. Twigs have a rank odor.

ROSACEAE
Prunus subcordata
(Klamath Plum)

Characteristics: Shrub or small tree 3-15 ft. tall, with grayish-purple bark, often forming thickets. Leaves are alternate, ½-2 in. long, ovate, finely toothed, and rounded on the ends. The 5-petaled flowers are white, arranged in clusters of 1-4 from the branch tips. Fruits are red drupes about ¾ in. long. Flowers April-June.

Habitat: Open, rocky slopes in juniper and pine woodlands, and streamsides.

Notes: Used to make jam and wine. Can be seen along the Link River. American plum has also been introduced to the Link River area. It is more tree-like, has pointed leaves, and has yellow-orange to red-purple fruits.

ROSACEAE
Prunus virginiana
(Chokecherry)

Characteristics: Shrub to small tree 3-15 ft. tall, with purple-gray bark and reddish-brown stems. Leaves are alternate, 2-4 in. long, dark green, finely toothed, and elliptical with a pointed tip. Petioles have 2 glands below the leaf base. Flowers have 5 white petals and grow in dense, cone-shaped clusters about 4 in. long. Fruits are ⅓ in. wide red-purple drupes in hanging clusters. Flowers April-June.

Habitat: Rocky ridges, burns, roadsides, and riparian areas at low to mid elevation.

Notes: Fruits are bitter, but are used to make jelly and wine. Deer, rabbits, rodents, and many birds eat the fruit. Occurs along the Link River.

Flowers, Hardwood Trees, and Shrubs

ROSACEAE
Purshia tridentata
(Bitterbrush)

Characteristics: Shrub 2-8 ft. tall. Stems and branches are red when young and turn gray with age. Leaves are alternate, ½-1 in. long, green on top, white hairy below, with 3 toe-like lobes. Flowers are fragrant and about ½ in. wide with 5 pale yellow petals. Fruits are achenes with blood-red juice. Flowers April-June.

Habitat: Shrublands, and lodgepole pine and ponderosa pine forest. The dominant shrub in pumice soils.

Notes: An important winter browse species for deer. Foliage and fruits are very bitter tasting. The 3-lobed leaves can be confused with those of sagebrush, but lack the silvery hairs and sage smell.

ROSACEAE
Rosa spithamea
(Ground Rose)

Characteristics: Rhizomatous shrub generally less than 2 ft. tall. Leaves are pinnately compound, with 4-8 blunt leaflets, double toothed and gland tipped. Spines are slender or thick and straight. Flowers are in groups of 1-10. Flowers have 5 pink petals about ½ in. long and glandular sepals. Fruits are ⅓ in. wide hips with long-stalked glands. Flowers June-Aug.

Habitat: Open mixed conifer forest. Can be seen in the Surveyor Mountain area.

Notes: The low growth and glandular fruits make this species distinctive.

ROSACEAE
Rosa woodsii
(Woods Rose)

Characteristics: Shrub 3-7 ft. tall with straight to curved prickles. Leaves are alternate and pinnately compound, with 5-9 toothed, ovate leaflets 1-2 in. long. Flowers are 1½-2 in. wide, with 5 pink petals, arranged in clusters of 3-5 at the ends of the branches. Fruits are pear-shaped red rosehips ¼-½ in. long, with persistent sepals. Flowers June-Aug.

Habitat: Ponderosa pine or mixed conifer forest.

Notes: Nootka rose (*R. nutkana*) is similar, but typically has single large flowers and is found in wetter sites. Baldhip Rose (*R. gymnocarpa*) has "bald" fruits without persistent sepals.

ROSACEAE
Rubus lasiococcus
(Dwarf Bramble)

Characteristics: Low, trailing shrub without prickles. Leaves are alternate, ¾-1½ in. wide, and divided into 3 main lobes with teeth. Flowers are about ½ in. wide with 5 white petals, and grow on long stalks. Fruits are less than ⅓ in. wide, hairy raspberries. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, shady to open sites.

Notes: The fruits are edible, but small. Dwarf bramble is a common ground cover in the Lake of the Woods area.

Flowers, Hardwood Trees, and Shrubs

ROSACEAE
Rubus leucodermis
(Blackcap Raspberry)

Characteristics: Shrub 2-6 ft. tall. Stems are white and arching to erect with flat curved prickles. The alternate leaves are green on top and white hair below, with 3 sharp-toothed leaflets. The 5-petaled flowers are pinkish white and grow in clusters of 3-7. Fruits are hairy raspberries, about ½ in. wide, which turn from red to purple then black. Flowers June-Aug.

Habitat: Disturbed open sites in mixed conifer and ponderosa pine forest.

Notes: Pacific blackberry, *R. ursinus*, has long black fruits, and is uncommon, usually along streams. The non-native noxious weed Himalayan blackberry, *R. discolor*, is abundant along the Link River.

ROSACEAE
Rubus parviflorus
(Thimbleberry)

Characteristics: Shrub 1 to 6 ft. tall, without prickles and usually somewhat trailing. Leaves are alternate, 2-9 in. wide, soft, and palmately 3-7 lobed and toothed. Flowers have 5 white petals and are about 1½ in. wide, growing in terminal clusters of 2-11. Fruits are ½ in. wide, red, hairy, and raspberry-like. Flowers June-July.

Habitat: Shady to open sites in mixed conifer and ponderosa pine forest.

Notes: The berries are edible, but seedy and not as sweet as blackcap raspberry. The large, soft, maple-like leaves distinguish this species.

ROSACEAE
Sorbus scopulina
(Western Mountain Ash)

Characteristics: Shrub or small tree up to 16 ft. tall, with white hairs on the new growth and in the inflorescence. Leaves are alternate, dark green above, paler below, and pinnately compound, with 7-11 lanceolate, finely-toothed leaflets pointed at the tip. Small white 5-petaled flowers grow in flat-topped clusters. Fruits are red to orange berries about ⅓ in. long. Flowers May-June.

Habitat: Streamsides, moist mixed conifer forest, and settlement areas.

Notes: Grown as an ornamental. Fruits are eaten by birds and wildlife. Sitka mountain ash, *S. sitchensis*, has reddish hairs and broader leaflets with blunt ends.

ROSACEAE
Spiraea douglasii
(Spirea)

Characteristics: Spreading shrub up to 6 ft. tall. Leaves are 2-4 in. long, dark green above, pale below, alternate, oblong, and toothed above the middle. Small, 5-petaled pink to rose flowers about ⅛ in. wide grow in dense narrow clusters. Fruits are small pods that stay on the plant into winter. Flowers June-Aug.

Habitat: Around lakes, meadows, and wetlands, and along streams.

Notes: Can be seen along the High Lakes Trail. Subalpine spirea, *S. densifolia*, is a smaller species with flat-topped inflorescences found at mid to high elevations in the Cascades.

Flowers, Hardwood Trees, and Shrubs

RUBIACEAE
Galium boreale
(Northern Bedstraw)

Characteristics: Perennial 1-2 ft. tall, with erect, square, leafy stems from a creeping rhizome. Leaves are ½-1 in. long and narrowly lanceolate with 3 main veins, arranged in whorls of 4. Flowers are about ¼ in. wide, with 4 white petals on top of an inferior ovary. Numerous flowers grow in terminal panicles. Fruits are rounded paired nutlets less than ⅛ in. long, covered with short bristly hairs. Flowers June-July.

Habitat: Meadow edges and open riparian forest.

Notes: Grows along the High Lakes Trail. Flowers are fragrant and showy. Several less showy bedstraws occur in the basin. Square stems, whorled leaves, an inferior ovary, and paired nutlets characterize the genus.

RUBIACEAE
Galium triflorum
(Sweet-scented Bedstraw)

Characteristics: Sprawling rhizomatous perennial, with square stems 1-2 ft. long, and hooked, downward pointing hairs. Leaves are sweet-smelling, ½-1 in. long, and narrowly elliptic with 1 main vein, in whorls of 5 to 6. Flowers are about ¼ in. wide with 4 greenish white petals on top of an inferior ovary. Flowers are usually in groups of 3 from the leaf axils. Fruits are rounded paired nutlets less than ⅛ in. long, covered with hooked bristly hairs. Flowers June-July.

Habitat: Meadows and riparian areas.

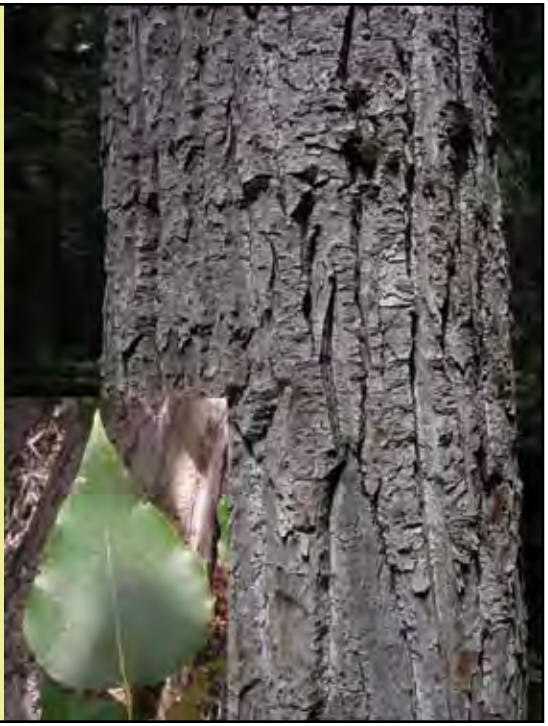
Notes: The hooked hairs stick to clothes. *Gallium* species have many historical uses and several common names. "Bedstraw" comes from the use of some species to stuff mattresses.

RUBIACEAE
Kelloggia galioides
(Milk Kellogia)

Characteristics: Sprawling rhizomatous perennial, with slender square stems usually less than 12 in. long. Leaves are ½-1 in. long, opposite, and lanceolate to linear. Flowers are about ¼ in. long, pink to white, and funnel shaped, with 4-5 lobes on top of an inferior ovary. Fruits are oblong paired nutlets ⅛ in. long, covered with short hooked bristly hairs.

Habitat: Lodgepole pine, mixed conifer, and subalpine forest.

Notes: Inconspicuous but widespread. Distinguished from the bedstraws by the paired opposite leaves and funnel-shaped flowers.



SALICACEAE
Populus balsamifera ssp. trichocarpa
(Black Cottonwood)

Characteristics: Tree up to 200 ft. tall. Bark on young trees is light gray and smooth, becoming furrowed with age. Leaves are 2-6 in. long, and broadly to narrowly heart shaped with fine teeth. Petioles are round and have a pair of small glands at the base of the leaf. Buds are long pointed, sticky, and sweet smelling. Trees are either male or female with tiny, petal-less flowers in drooping catkins. Flowers in early spring.

Habitat: Streamsides, lakeshores, and other riparian areas.

Notes: Named for the tufts of hair on the fruits, which aid in wind dispersal and are characteristic of the willow family. Also characteristic of the willow family, cottonwoods have roots that will invade water and sewer lines if planted too close.

Flowers, Hardwood Trees, and Shrubs

SALICACEAE
Populus tremuloides
(Quaking Aspen)

Characteristics: Tree up to 40 ft. tall, forming colonies. Bark is smooth, thin, and whitish, becoming black and furrowed at the base of old trees. Leaves are 2-4 in. wide, heart shaped, and attached to the stem by flat petioles, causing them to flutter or quake. Trees are either male or female with tiny, petal-less flowers in drooping catkins. Flowers in early spring.

Habitat: Streamsides, lakeshores, meadow edges.

Notes: Leaves turn bright yellow to orange in the fall. The Wood River Valley, Kimball State Park, and Odessa-Rocky Point areas are good places for fall viewing. Although aspens are attractive, they sucker freely, limiting their use as ornamentals.

SALICACEAE
Salix exigua
(Narrow-leaved Willow)

Characteristics: Shrub up to 12 ft. tall. Bark is grayish brown with long vertical ribs. Twigs are green to brownish. Leaves are 2-6 in. long, linear, pointed at the end, tapered to a short petiole, and often curved, with entire or finely-toothed margins. The underside of the leaves is covered in long silky white hairs. Trees are either male or female with tiny, petal-less flowers in long catkins. Flowers April-June.

Habitat: Common along streams and around wetlands.

Notes: Willows are variable and also hybridize, which can make it difficult to identify species. *S. exigua* is distiguished by the long linear leaves.

SALICACEAE
Salix geyeriana
(Geyer's Willow)

Characteristics: Shrub up to 15 ft. tall, with slender branches and yellow-brown glaucous twigs. Leaves are silvery gray-green, 1-3 in. long, elliptic to lanceolate, and entire, with white to rusty colored hairs. Trees are either male or female with tiny, petal-less flowers in short, stubby catkins. Flowers April-June.

Habitat: Widespread along streams and around wetlands.

Notes: Look for rounded shrubs with a silvery gray-green color growing in wet areas. Segments of willow and cottonwood stems easily root, spreading plants vegetatively. Willow and cottonwood are important species for streambank stabilization and riparian restoration.

SALICACEAE
Salix lemmonii
(Lemmon's Willow)

Characteristics: Shrub up to 15 ft. tall. Second year and mature first year twigs are yellow-brown and glaucous. Leaves are 1½-4 in. long, elliptic to narrowly elliptic, shiny dark green on top, glaucous beneath, and entire or finely toothed. Silky white or rusty hairs may be present on young leaves and twigs. Trees are either male or female with tiny, petal-less flowers in 1-2 in. long catkins. Flowers April-June.

Habitat: Widespread along streams and around wetlands.

Notes: This willow can be identified by the waxy coating on the twigs, and leaves that are dark green on top, waxy beneath.

Flowers, Hardwood Trees, and Shrubs

SALICACEAE
Salix lucida ssp. lasiandra
(Pacific Willow)

Characteristics: Shrub or tree up to 30 ft. tall, with glossy brown, fissured bark and brownish twigs. Leaves are 2-6 in. long, lanceolate with a tapered, pointed tip, and finely toothed. Young leaves are reddish and hairy, older leaves are shiny yellow-green on top and white underneath. Petioles have noticeable glands at the base of the leaf, and glandular leafy stipules are often present. Trees are either male or female with tiny, yellowish petal-less flowers in long catkins. Flowers April-June.

Habitat: River banks and around lakes and meadows.

Notes: This is the largest willow in our area. It provides important nesting habitat for songbirds, and the flowers are attractive to bees and butterflies.

SALICACEAE
Salix scouleriana
(Scouler's Willow)

Characteristics: Shrub or tree up to 30 ft. tall, with dark brown bark and yellow-green to brown twigs. Leaves are dark shiny green on top, glaucous beneath, and oblanceolate, with margins irregular and rolled under. Trees are either male or female with tiny, petal-less flowers in long catkins with black bracts. Flowers April-June.

Habitat: Disturbed upland forest as well as riparian areas.

Notes: Distinguished by having leaves with broad rounded ends and black flower bracts. This species can provide important forage for deer and elk.

SAXIFRAGACEAE
Heuchera chlorantha
(Meadow Alumroot)

Characteristics: Perennial 15-40 in. tall with glandular hairy stems. Leaves are 1-3 in. wide, basal, ovate to heart shaped, lobed, and toothed. Flowers are in long narrow clusters at the top of numerous, tall leafless stalks. Flowers are bell shaped, with 0-5 tiny white petals and 5 yellow-green to white sepals. Flowers June-Aug.

Habitat: Streamsides, meadow edges, talus slopes.

Notes: An attractive plant that is used in landscaping and is related to coral-bells (*H. sanguinea*).

SAXIFRAGACEAE
Lithophragma bulbifera
(Bulbous Woodland Star)

Characteristics: Perennial 6-12 in. tall with reddish glandular stems. Leaves are mostly basal and rounded, palmately divided into 3-5 main divisions and further lobed. Small reddish bulbs are located in the leaf axils. Flowers are about ½ in. wide, in branched inflorescences at the top of few-leaved stalks. Flowers are vase shaped and have 5 white to pink petals, each divided into 5 lobes. Fruits are 3-chambered capsules with small dark seeds. Flowers March-June.

Habitat: Scablands, and juniper and ponderosa pine woodlands, often in disturbed sites.

Notes: Similar to *L. parviflorum*, but has distinct reddish bulbs in the leaf axils. This species is abundant around Klamath Falls in the spring.

Flowers, Hardwood Trees, and Shrubs

SAXIFRAGACEAE
Lithophragma parviflorum
(Prairie Woodland Star)

Characteristics: Perennial 6-12 in. tall, with glandular stems, reddish toward the top. Leaves are hairy, mostly basal, and rounded, palmately divided into 3-5 main divisions and further lobed and toothed. Flowers are ½-¾ in. wide in branched inflorescences at the top of few-leaved stalks. Flowers are vase shaped and have 5 white to pink or lavender petals, each divided into 3-5 lobes. Fruits are 3-chambered capsules with small dark seeds. Flowers March-June.

Habitat: Shrublands, juniper, oak and pine woodlands, abundant in the spring.

Notes: Similar to *L. bulbifera*, but does not have bulbs at the base of the leaves. Can be seen on Modoc Rim.

SAXIFRAGACEAE
Mitella pentandra
(Bishop's Cap)

Characteristics: Rhizomatous perennial 6-16 in. tall. Leaves are basal, ovate to heart shaped, and shallowly lobed and toothed with stiff hairs. Flowers are in racemes at the top of nearly leafless stalks. Flowers are saucer shaped, with 5 greenish petals pinnately divided into thread-like lobes spread out like an antenna. The 5 stamens are opposite the petals. Flowers June-Aug.

Habitat: Moist forest, often near streams and springs.

Notes: Many species in the saxifrage family have similar leaves, but the distinct petals of bishop's cap make it easy to identify. *M. trifida* has small 3-lobed petals. *M. breweri* has narrowly lobed petals and stamens opposite the sepals.

SAXIFRAGACEAE
Saxifraga oregana
(Oregon Saxifrage)

Characteristics: Perennial 10-40 in. tall with glandular hairy stems. Leaves are in a rosette, 4-8 in. long, obovate to lanceolate with wavy margins, and tapered to a winged petiole. Flowers are numerous in branched clusters at the top of tall, leafless stalks. Flowers are small and saucer shaped, with 4-5 obovate, uneven-sized white petals. Flowers June-Aug.

Habitat: Found in wet meadows, streamsides, and boggy areas.

Notes: Common in the Cascades, distinguished by the rosette of leaves and sticky glandular inflorescence. This species has several named varieties and occurs throughout the west.

SAXIFRAGACEAE
Tiarella trifoliata
(Foamflower)

Characteristics: Perennial with hairy stems 6-24 in. tall. Basal leaves are 2-5 in. wide, hairy, and ternately lobed or compound, the segments further lobed and toothed. Smaller leaves grow up the stem. Flowers are tiny, with 5 white thread-like petals, growing in clusters at the top of the stalks. Fruits are capsules with unequal valves. Flowers June-Aug.

Habitat: Streamsides and meadow edges often in moist shady forest.

Notes: Named for the small white flowers that resemble flecks of foam. Flowers are shaped like a small scoop, and another common name for this species is "sugar scoop." It can be seen along the High Lakes Trail.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Castilleja angustifolia
(Desert Indian Paintbrush)

Characteristics: Perennial ½-1½ ft. tall, with clustered often purplish stems. Leaves are linear and entire at the base, 3-5 lobed near the top. The inflorescence is a terminal spike with red-orange to pink bracts with 3-5 lobes. Flowers are bilateral and tubular, with a long yellow-green galea and dark green lower lip. Flowers May-June.

Habitat: Sagebrush and rabbitbrush shrublands.

Notes: Similar to *C. applegatei*, but lacks wavy leaves and is not sticky. Paintbrushes are semi-parasitic on other plants and thus not easily transplanted or grown from seed.

SCROPHULARIACEAE
Castilleja applegatei
(Applegate's Paintbrush)

Characteristics: Perennial ½-1½ ft. tall, hairy and glandular-sticky. Leaves are lanceolate, and entire to 3 lobed with wavy margins. The inflorescence is a terminal spike with bright red to orange or yellow bracts with 3-5 lobes. Flowers are bilateral and tubular, with a long yellow galea and dark green lower lip. Flowers May-July.

Habitat: Widespread, from low elevation shrublands to open forest and subalpine slopes.

Notes: This is our most common paintbrush, distinguished by the wavy leaf margins. It is named after Elmer Applegate, a botanist who lived in Klamath Falls and worked at Crater Lake NP. Look for this species on Modoc Rim.

SCROPHULARIACEAE
Castilleja arachnoidea
(Cobwebby Paintbrush)

Characteristics: Perennial with clustered stems 4-10 in. tall, and long, white cobwebby hairs. Leaves are 3 lobed with narrow segments, sometimes with a reddish-purplish tinge. The inflorescence is a terminal spike with yellow, purplish, or reddish 3-lobed bracts. Flowers are bilateral, tubular, light green to purplish, and often hidden by the bracts, with a short galea and short 3-pouched lower lip that has 3 yellow teeth. Flowers June-Aug.

Habitat: Open slopes and summits, generally talus or pumice soils.

Notes: Hairy paintbrush (*C. pilosa*) has pale yellow-green (or purplish) bracts and shorter hairs that are not tangled/cobwebby.

SCROPHULARIACEAE
Castilleja linariifolia
(Narrow-leaved Paintbrush, Wyoming Paintbrush)

Characteristics: Perennial 2-3 ft. tall and often branched. Leaves are linear and entire, or 3 lobed towards the top. The inflorescence is a short terminal spike with bright red or yellow 3-lobed bracts. Flowers are bilateral and tubular, with a bright red calyx, 1-2 in. long yellow galea, and small dark green lower lip. Flowers July-Sept.

Habitat: Shrublands at low to mid elevations.

Notes: This tall paintbrush is the State Flower of Wyoming and is probably the most common and widespread paintbrush in areas dominated by sagebrush.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Castilleja miniata
(Scarlet Paintbrush)

Characteristics: Perennial 2-3 ft. tall. Leaves are lanceolate and entire. The inflorescence is a terminal spike with numerous bright red bracts that have 0-5 pointed lobes. Flowers are bilateral, tubular, and yellow-green, with a long-pointed galea and dark green lower lip. Flowers July-Sept.

Habitat: Mountain meadows, seeps, springs, and streamsides.

Notes: Large and showy, the only paintbrush in our area found in wet habitats. Can be seen at Crater Lake NP, Gearhart Mt., and along the High Lakes Trail.

SCROPHULARIACEAE
Castilleja pilosa
(Hairy Yellow Paintbrush)

Characteristics: Perennial ½-1 ft. tall, gray to purplish, and long hairy. Leaves are linear and entire at the base and have 1-2 pairs of lateral lobes near the top. The inflorescence is a terminal spike with light yellow bracts broader than the leaves that have 2-8 narrow lateral lobes. Flowers are bilateral and tubular, with a short greenish galea and purplish lower lip. Flowers May-June.

Habitat: Shrublands, dry meadows, and open forest. Low to upper elevations.

Notes: Common at Miller Island Wildlife Management Area.

SCROPHULARIACEAE
Castilleja tenuis
(Hairy Owl-clover)

Characteristics: Glandular, long-hairy annual, unbranched and about 6 in. tall. Leaves are ½-1½ in. long and linear at the base, with the upper divided into 3-5 unequal narrow lobes. The inflorescence is a terminal spike with green bracts similar to the upper leaves. Flowers are bilateral, tubular, and white to pale yellow, with a narrow short-pointed galea and swollen lower lip with 3 pouches. Flowers May-July.

Habitat: Seasonally moist meadows.

Notes: Owl-clovers are small annual relatives of the paintbrushes formerly all in the genus *Orthocarpus*, but some, like this species, were moved to the genus *Castilleja*.

SCROPHULARIACEAE
Collinsia parviflora
(Blue-eyed Mary)

Characteristics: Small, slender annual with opposite, entire leaves, up to 1 ft. tall, but usually much smaller. Flowers are tiny, bilateral, and tubular, with a white 2-lobed upper lip and blue 3-lobed lower lip. A distinct "hump" is located on the rear of the corolla tube. Flowers March-June.

Habitat: Widespread in open areas at all elevations.

Notes: This is a common spring wildflower that can be quite abundant, but because of its small size, goes unnoticed. Meriwether Lewis collected a specimen along the Columbia River in April 1806.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Mimulus guttatus
(Common Monkeyflower)

Characteristics: Annual or perennial ½-2 ft. tall. Leaves are opposite, ovate to round, toothed, and glabrous to hairy. The tubular, bilateral flowers are lemon-yellow and about ½-1 in. wide, with 2 upper lobes and 3 lower lobes speckled with red dots. Flowers May-Aug.

Habitat: Seeps, springs, meadows, and streamsides at all elevations.

Notes: This is our most common monkeyflower, found in a variety of wet habitats. "Guttatus" means speckled, referring to the lower lip marked with red. The 2-parted stigma will close if touched.

SCROPHULARIACEAE
Mimulus lewisii
(Pink Monkeyflower)

Characteristics: Rhizomatous perennial 2-3 ft. tall, often growing in patches. Leaves are opposite, lanceolate to ovate and entire or toothed. The tubular, bilateral flowers are pinkish-purple and about 2 in. long. Flowers have 2 upper lobes and 3 lower lobes with yellow markings in the throat. Flowers July-Sept.

Habitat: Seeps, springs, and streamsides in the Cascades, mid to upper elevations.

Notes: A large, showy species that can be seen in Crater Lake NP, especially at Castle Crest Wildflower Garden. This species was named after Meriwether Lewis who first collected it in 1805 below Lemhi Pass, Montana.

SCROPHULARIACEAE
Mimulus moschatus
(Musk Monkeyflower)

Characteristics: Rhizomatous perennial ½-1 ft. tall, with glandular slimy foliage and a musky scent. Leaves are opposite, ovate to oblong, and few-toothed, with flattened whitish hairs. The tubular, bilateral flowers are yellow and about ½-¾ in. wide, with 2 upper lobes and 3 lower lobes often marked with lines or dots. Flowers May-Aug.

Habitat: Seeps, springs, meadows and streamsides.

Notes: The yellow flowers are similar to those of common monkeyflower, and the two species sometimes occur in the same habitats. *M. moschatus* is distinguished by the highly glandular foliage and musky smell.

SCROPHULARIACEAE
Mimulus nanus
(Dwarf Monkeyflower)

Characteristics: Annual 1-4 in. tall. The leaves are opposite, lanceolate to ovate and entire. The tubular, bilateral flowers are dark purple to magenta and about ⅓ in. wide. Flowers have 2 upper lobes and 3 lower lobes with 2 lines of yellow dots in the throat. Flowers June-Aug.

Habitat: Dry pumice or gravelly soils, often along roads.

Notes: This small plant is often seen in patches and can be common along Hwy 97 between Chiloquin and Bend during the summer. It is also common at Devil's Garden and Lava Beds NM.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Mimulus primuloides
(Primrose Monkeyflower)

Characteristics: Rhizomatous perennial to about 4 in. tall. The toothed leaves are lanceolate to oblanceolate and mostly at the base. The tubular, bilateral flowers are single on slender, leafless stems. Flowers are yellow and about ¼ in. wide, with 2 upper lobes and 3 lower lobes dotted with red. Flowers July-Aug.

Habitat: Meadows, springs, and seeps.

Notes: There are other small, yellow monkeyflowers that grow in wet places, but they are annual species with leafy stems.

SCROPHULARIACEAE
Orthocarpus bracteosus
(Rosy Owl-clover)

Characteristics: Glandular hairy unbranched annual 12-16 in. tall. Leaves are linear to 3 lobed. The pink-purple bilateral flowers are in a paintbrush-like spike with numerous bracts that grade from green below, similar to the leaves, to purplish near the top. Petals are fused to form a lower pouch and an upper beak-like galea that encloses the stamens and pistil. Flowers June-Aug.

Habitat: Moist meadows.

Notes: This species can be seen in patches in Great Meadow along the High Lakes Trail.

SCROPHULARIACEAE
Orthocarpus imbricatus
(Mountain Owl-clover)

Characteristics: Annual, often branched, up to 1 ft. tall. The alternate leaves are linear to narrowly lanceolate. Flowers are in a short paintbrush-like spike with purple bracts beneath each flower. Bracts are broad and rounded, some with small lateral lobes. Flowers are bilateral, tubular, and small, with a purple galea and yellowish pouch. Flowers July-Aug.

Habitat: Dry, rocky slopes and roadsides to moist mixed conifer forest and meadow edges.

Notes: Owl-clovers are semi-parasitic on the roots of other plants, from which they obtain water and minerals. This species can be seen along the High Lakes Trail.

SCROPHULARIACEAE
Orthocarpus luteus
(Yellow Owl-clover)

Characteristics: Glandular hairy annual, unbranched and about 6 in. tall. The leaves are linear to lanceolate, often with narrow lateral lobes. Flowers are in a paintbrush-like spike with 3-lobed green bracts below each flower. The bilateral tubular flowers are lemon yellow, with a small galea and large swollen lower lip with 3 pouches. Flowers May-July.

Habitat: Seasonally moist meadows, streamsides, and vernal pools.

Notes: This species is common in seasonally moist open areas near Topsy.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Pedicularis attollens
(Little Elephant's Head)

Characteristics: Unbranched perennial about ½-1 ft. tall. Leaves are 1-6 in. long, mostly basal, and pinnately lobed and fern-like with toothed linear segments. The inflorescence is a dense terminal raceme with soft hairs. The bilateral flowers are pink to purple with darker markings, the lower lip is broad and 3 lobed, the upper lip forms an upward-curving beak. Flowers July.

Habitat: Moist to wet meadows at mid to upper elevations.

Notes: Similar to *P. groenlandica*, but smaller. *Pedicularis* species are pollinated by bumblebees. *Pedicularis* means "lousewort" and comes from an old belief that animals that ate the plant would get lice.

SCROPHULARIACEAE
Pedicularis groenlandica
(Elephant's Head)

Characteristics: Unbranched perennial up to 2 ft. tall. Leaves are 2-8 in. long, mostly basal, pinnately lobed, and fern-like, with narrow toothed segments. The inflorescence is a dense terminal raceme. The bilateral flowers are purple to reddish, with a broad 3-lobed lower lip and the upper lip forming a long upward-curving beak, resembling an elephant's trunk. Flowers July-Aug.

Habitat: Wet meadows, streamsides, and bogs.

Notes: Plants are sometimes reddish. Look for it at Castle Crest Wildflower Garden at Crater Lake NP. *Pedicularis* species have unusual flowers, which one writer thought resembled a herd of elephants on a stick!

SCROPHULARIACEAE
Pedicularis racemosa
(Parrot's Beak)

Characteristics: Branched perennial 1-2 ft. tall with lax stems. Leaves are 1½-4 in. long and lanceolate, with short petioles and margins doubly toothed. The bilateral flowers are white to yellowish or pink to purple, with a broad 3-lobed lower lip, and the upper lip forming a downward-curving beak. Flowers July-Aug.

Habitat: Riparian areas and moist mixed conifer and subalpine forest.

Notes: Like the paintbrushes, *Pedicularis* species are semi-parasitic on plant roots. This species is distinguished by having simple leaves and growing in forested areas. It can be seen along the High Lakes Trail.

SCROPHULARIACEAE
Penstemon cinicola
(Ash Penstemon)

Characteristics: Slender perennial ½-1½ ft. tall, with opposite, arching, linear leaves. Flowers are blue-purple, bilateral, tubular, and about ½ in. long, with a hairy lower lip and staminode. Flowers occur in several whorl-like clusters on thin stems. Flowers June-July.

Habitat: Most often in pumice soils, occurring at all elevations.

Notes: Penstemons can be grown from seed and do well in a wildflower garden. They are pollinated by several native bees, with small bees visiting smaller-flowered species and large bees, larger-flowered species. Hummingbirds are also attracted to the nectar.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Penstemon davidsonii
(Davidson's Penstemon)

Characteristics: Short, shrubby, mat-forming perennial, with woody stems and small, ovate to obovate, entire, opposite leaves. The bilateral, tubular, blue-violet flowers are about 1½ in. long, and occur in large numbers on older plants. Flowers June-Aug.

Habitat: Open, rocky habitats at 5,000 to 8,000 ft. elevation.

Notes: Found throughout the Cascades and on Gearhart and Yamsay Mts., Cougar Peak, and other high peaks in our area. Similar to *P. rupicola*, but has blue flowers and green, entire leaves.

SCROPHULARIACEAE
Penstemon deustus
(Hot Rock Penstemon)

Characteristics: Perennial 1-2 ft. tall, with sharply-toothed obovate to lanceolate, opposite leaves. Flowers are about ½-¾ in. long, bilateral, tubular, glandular, and cream colored, with reddish lines (guidelines) in the throat. Flowers May-July.

Habitat: Open, rocky habitats at all elevations. Widespread.

Notes: This is our only white *Penstemon*, most are blue. Many flowers have "guides," markings that help direct bees and other insects toward pollen. Because insects see in ultraviolet wavelengths, the guides may not be obvious to humans.

SCROPHULARIACEAE
Penstemon humilis
(Low Penstemon)

Characteristics: Slender, short-hairy perennial ½-1½ ft. tall, with a tuft of oblanceolate basal leaves. Stem leaves are opposite, sessile and lanceolate. Flowers are bilateral, tubular, blue-purple, glandular, and about ½ in. long, with a hairy lower lip and staminode. Flowers June-July.

Habitat: Scablands, shrublands, and juniper and ponderosa pine woodlands.

Notes: This species can be seen near Gerber Reservoir. The erect lanceolate stem leaves and glandular flowers help distinguish it from ash penstemon.

SCROPHULARIACEAE
Penstemon laetus
(Gay Penstemon)

Characteristics: Perennial ½-1½ ft. tall, with narrow, linear, opposite leaves folded at the mid-rib. The bilateral, tubular, blue-violet flowers are about 1 in. long, have a glabrous staminode, and are covered with glands. Whorls have few flowers. Flowers June-July.

Habitat: Shrublands and ponderosa pine woodlands; dry, rocky sites.

Notes: Often grows with showy penstemon, but has smaller flowers and narrower leaves. Can be found on Hogback Mt., Stukel Mt., and Modoc Rim.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Penstemon miser
(Golden-tongued Penstemon)

Characteristics: Glandular hairy perennial to about 8 in. tall. Leaves are linear to elliptic and opposite. The bilateral, tubular, violet-purple flowers are about ¾ in. long and have a yellow or orange, brush-like staminode. Flowers occur in 3-6 whorls. Flowers June-July.

Habitat: Scablands and rocky sites in shrublands and ponderosa pine woodlands at low to mid elevations.

Notes: The golden hairy staminode makes this species distinctive. Penstemons all have 4 fertile stamens and a sterile staminode. *Penstemon* means "five thread," referring to the staminode.

SCROPHULARIACEAE
Penstemon rupicola
(Rock Penstemon)

Characteristics: Short, shrubby, mat-forming perennial with woody stems. Leaves are small, leathery, opposite, paddle shaped, and gray-green with small teeth. The pink to reddish-purple, bilateral, tubular flowers are about 1½ in. long, and occur in large numbers on older plants. Flowers June-Aug.

Habitat: Rock ledges and crevices at 5,000 to 8,000 ft. elevation.

Notes: Found throughout the Cascades. At Crater Lake NP it occurs at Garfield Peak trail, Mt. Scott trail, and Mazama Rock. Large plants in flower are spectacular.

SCROPHULARIACEAE
Penstemon rydbergii
(Meadow Penstemon)

Characteristics: Perennial 1-2 ft. tall, with oblanceolate to elliptic, opposite leaves. The bilateral, tubular, blue-violet flowers are about ¾ in. long, have a staminode hairy at the tip, and occur in 1-7 dense whorls. Flowers June-July.

Habitat: Dry to moist meadows and along streambanks.

Notes: Can be seen at Great Meadow along the road into the Lake of the Woods Recreation Area.

SCROPHULARIACEAE
Penstemon speciosus
(Showy Penstemon)

Characteristics: Perennial 1-3 ft. tall. Leaves are oblanceolate, opposite, and 2-6 in. long. The bilateral, tubular, brillant blue flowers are 1½-2 in. long and occur in up to 10 widely-spaced whorls. Flowers June-July.

Habitat: Dry, open areas at all elevations.

Notes: A showy, variable species that is tall at low elevations, but can be much shorter at high elevations. Look for it in June along Modoc Rim. It is easily grown from seed.

Flowers, Hardwood Trees, and Shrubs

SCROPHULARIACEAE
Synthyris reniformis
(Snow Queen)

Characteristics: Short perennial with basal, shallowly-lobed, heart or kidney-shaped leaves 1-3 in. wide. The small blue bell-shaped flowers have 4 petals (the upper larger than the others) and 2 stamens. Flowers April to June.

Habitat: Moist mixed conifer forest.

Notes: This species is called “snow queen” because it flowers soon after the snow melts.

SCROPHULARIACEAE
Verbascum thapsus
(Common Mullein)

Characteristics: Biennial up to 6 ft. tall, with large woolly leaves that cover most of the stem. At the top of the stem is a dense spike-like raceme of yellow, nearly radially symmetrical, 5-petaled flowers. Flowers July-Sept.

Habitat: Disturbed habitats throughout our area, especially roadsides.

Notes: Common mullein is a weed introduced from Eurasia. The seeds are eaten by finches and sparrows. Moth mullein (*V. blattaria*) has purple hairs on the stamens, a more open inflorescence, and is glandular, not woolly.

SCROPHULARIACEAE
Veronica americana
(American Brooklime)

Characteristics: Rhizomatous perennial with trailing stems 1-2 ft. long. Leaves are opposite, oval to lanceolate, and finely toothed. Leaf petioles are short near the top of the stem, longer below. Small blue flowers are in racemes from the leaf axils. Flowers have 4 petals (the top petal largest), 2 stamens, and 1 stigma with a rounded head. Fruits are small rounded capsules slightly notched at the top. Flowers June-Aug.

Habitat: Streamsides and springs.

Notes: Veronicas are common, but small, wetland plants. Other species include: *V. scutellata* (narrow leaves, no petioles), *V. wormskjoldii* (glandular inflorescence, fruits longer than wide), *V. serpyllifolia* (glandular hairs, fruits wider than long).

SOLANACEAE
Chamaesaracha nana
(Dwarf Five Eyes)

Characteristics: Low growing perennial. Leaves are dark green and somewhat triangular with wavy margins. The star-shaped flowers have 5 fused white petals, with yellow spots at the base and a purple tint on the back. Stamens are yellow. Fruit is light green (similar to a small tomatillo) and often covered with persistent sepals. Flowers June-Aug.

Habitat: Forest openings, often in disturbed places with sandy soils.

Notes: Named for the 5 yellowish spots on the petals. Also called *Leucophysalis nana*.

Flowers, Hardwood Trees, and Shrubs

SOLANACEAE
Nicotiana attenuata
(Coyote Tobacco)

Characteristics: Annual 1½-3 ft. tall with a strong smell. Leaves are 1-6 in. long, lanceolate to elliptic, and glandular sticky. Flowers are white and trumpet shaped. Fruits are dry capsules with numerous small seeds. Flowers June-Aug.

Habitat: Dry, open areas, often along roads and in areas burned by wildfires.

Notes: A distinct, smelly, sticky, native plant that is related to cultivated tobacco and contains nicotine. Can be toxic to livestock.

SOLANACEAE
Solanum dulcamara
(Climbing Nightshade)

Characteristics: Trailing or climbing perennial with stems up to 10 ft. long. Leaves are ovate, typically with 2 small lobes or leaflets at the base. Flowers are star shaped, with 5 purple petals that are flat or bent backwards. The 5 yellow stamens stick out in front like a beak. Fruits are red berries about ⅓ in. wide. Flowers June-Aug.

Habitat: Moist disturbed places, occurs around Upper Klamath Lake and along the Link River.

Notes: A non-native species introduced from Europe. Like many nightshades, all parts of the plant are toxic.

SPARGANIACEAE
Sparganium emersum
(Narrowleaf Bur-reed)

Characteristics: Perennial up to 2 ft. tall, semi-aquatic and usually partially submersed. Leaves are thick, spongy, and triangular below the middle, with a mid rib and parallel veins. Flowers are tiny and greenish, arranged in dense heads. The heads of male flowers are smaller and lie above the heads of female flowers. Fruits are beaked achenes that form bur-like heads up to 1 in. wide. Flowers June-July.

Habitat: Canals, wetlands, and pond margins. Can be seen at the Wood River Wetlands.

Notes: The burs are a favorite food of ducks and other waterfowl. Deer eat the whole plant. Also called *S. angustifolium*.

URTICACEAE
Urtica dioica
(Stinging Nettle)

Characteristics: Rhizomatous perennial 3-10 ft. tall with stinging hairs. Stems are erect and unbranched. Leaves are narrow and opposite, with saw-like teeth. The small green flowers grow in stringy clusters. Fruits are flat, rounded, and small. Flowers June-July.

Habitat: Along streams and wetlands, especially in disturbed sites like canals and road ditches.

Notes: The hairs are hollow and break easily, releasing chemicals that cause a painful rash. Stinging nettle has a wide range, and has been eaten and used medicinally and for fiber around the world for centuries.

Flowers, Hardwood Trees, and Shrubs

VALERIANACEAE
Plectritis congesta
(Sea Blush)

Characteristics: Annual 3-12 in. tall. Leaves are elliptic to oblong, opposite, and sessile. The single stems are square in cross section. Small white to pink bilateral flowers grow in rounded clusters at the end of long stalks. The 5 petals are fused at the base to form two lips with a spur in the back. The 3 stamens extend out beyond the petals. The ovary is inferior. Fruits are winged and dry. Flowers May-June.

Habitat: Moist to dry meadows, roadsides, ditches, and rocky slopes. Often abundant where found.

Notes: At first glance, this species may look like it belongs in the mint family, but the mints have superior ovaries. Flowers have a strong sweet smell.

VALERIANACEAE
Valeriana sitchensis
(Sitka Valerian)

Characteristics: Rhizomatous perennial up to 2 ft. tall. Leaves are opposite and divided into 3-7 lobes or leaflets, largest at the base and smaller up the stem. Flowers have 5 white petals fused into a tube at the base, 2 times longer than the free lobes. The 3 stamens stick out beyond the petals. Flowers are in dense terminal clusters. The ovary is inferior and the calyx lobes become coiled and plume-like at the top of the achene fruit. Flowers June-Aug.

Habitat: Moist forest and riparian areas.

Notes: Commercial valerian is made from the Eurasian species *Valeriana officinalis*. It is used medicinally as a sedative to relieve anxiety, muscle tension, and insomnia.

VIOLACEAE
Viola adunca
(Western Dog Violet)

Characteristics: Branched perennial up to 8 in. tall with rhizomes. Leaves are ovate to heart shaped with slightly scalloped margins. Flowers are bilateral and blue to violet, with dark veins, white hairs, and a narrow curved spur. Flowers June-Aug.

Habitat: Meadows, streamsides, ditches, disturbed areas, and grasslands.

Notes: The flowers can be eaten raw or made into tea. *V. macloskeyi* is another small species of moist habitats that has white petals marked with dark blue-purple.

VIOLACEAE
Viola beckwithii
(Great Basin Violet)

Characteristics: Perennial up to 5 in. tall with rhizomes. Leaves are ternately compound and further divided into narrow lobes. Flowers are bilateral, with 2 purple upper petals and 3 white lower petals that are yellow at the base and marked with dark lines. Flowers April-June.

Habitat: Shrublands and juniper woodlands.

Notes: Great Basin violet's showy flowers and distinctive leaves help distinguish it from other blue-purple violets in our area. Shelton's violet (*V. sheltonii*) also has leaves divided into narrow segments, but has yellow flowers.

Flowers, Hardwood Trees, and Shrubs

VIOLACEAE
Viola glabella
(Yellow Wood Violet)

Characteristics: Perennial up to 12 in. tall, with a scaly rhizome, and leaves on the stem, not at the base. Leaves are hairy, heart shaped, dark green, and shiny. The bilateral flowers have petals that are bright yellow on both sides, with purple lines on the lower petals. Flowers are located near the tips of erect stems. Flowers June-Aug.

Habitat: Moist, often shady forest, along streams, or around seeps and meadows.

Notes: Distinguished by the heart-shaped leaves and yellow flowers. The other yellow violets in our area are typically found in dry habitats.

VIOLACEAE
Viola purpurea
(Goosefoot Violet)

Characteristics: Perennial up to 6 in. tall. The ovate leaves are mostly basal and lobed (shaped like a goosefoot) with coarse veins. Leaves often have a whitish waxy coating and are sometimes purplish, especially beneath. The bilateral flowers have petals that are yellow in front and brown-purple on the back. Lower petals have fine brown-purple lines. Flowers June-Aug.

Habitat: Open, gravelly slopes and flats. Common in pumice soils.

Notes: A variable species found in a variety of dry habitats. Other yellow violets grow on dry sites (*V. bakeri* and *V. vallicola*), but tend to have longer leaves and lack dark coloring on the back of the petals.

CYPERACEAE
Carex angustata
(Widefruit Sedge)

Characteristics: Rhizomatous perennial 2-3 ft. tall with 3-angled stems. Leaves are long and ⅓ in. wide. Old leaf sheaths form net-like shreds at the base of stems. Male flowers are in dark terminal spikes; female flowers are in elongate cylindrical spikes below. Flowers have 2 stigmas and fruits (perigynia) are flattened and lens shaped. Flowers June-July.

Habitat: Moist to wet meadows and lodgepole pine swamps.

Notes: Similar species are: Nebrasca sedge, *C. nebrascensis*, shorter with broad blue-green leaves; aquatic sedge, *C. aquatilis*, a large sedge with sharp-pointed rhizomes in wet sites; lakeshore sedge, *C. lenticularis*, clumped (not rhizomatous), often around high elevation lakes.

CYPERACEAE
Carex inops ssp. inops
(Long-stolon Sedge)

Characteristics: Rhizomatous perennial up to 1 ft. tall. Stems and leaves are slender and dark green. Male flowers are in a dark terminal spike about 1 in. long; female flowers are in 1-4 small oblong spikes below. Flowers have 3 stigmas and fruits (perigynia) are hairy with long beaks. Flowers June-July.

Habitat: Mixed conifer and subalpine forest, scattered under tree canopy, or sometimes dense after disturbances.

Notes: Without inflorescences, this species can be confused with grasses. Look for coarse, 3-ranked leaves with reddish bases. Ross's sedge, *C. rossii*, is another upland sedge, with thin, tufted, wiry, gray-green leaves.

Grasses and Grass-like Plants

CYPERACEAE
Carex lanuginosa
(Woolly Sedge)

Characteristics: Rhizomatous perennial 1-3 ft. tall with 3-angled stems. Leaves are ¼ in. wide, flat, and mostly on the stem. Male flowers are in dark terminal spikes; female flowers are in elongate cylindrical spikes below. Flowers have 3 stigmas and the fruits (perigynia) are rounded and covered with short bristly hairs. Flowers June-July.

Habitat: Moist to wet meadows east of Hwy 97, often with tufted hairgrass.

Notes: The cylindrical spikes and hairy fruits help identify this species. Slender sedge (*C. lasiocarpa*) also has hairy fruits, but the leaves are narrow and folded and the species is typically found in standing water.

CYPERACEAE
Carex simulata
(Short-beaked Sedge)

Characteristics: Rhizomatous perennial up to 1 ft. tall. Stems are slender and round. Narrow leaves are clustered near the base. Male and female flowers are generally on different plants in short terminal spikes. Flowers have 2 stigmas, and fruits (perigynia) are small, teardrop shaped, dark brown, hard, and shiny. Flowers June-July.

Habitat: Wet meadows, often growing with spikerushes.

Notes: The distinctive dark shiny fruits make this species easy to identify.

CYPERACEAE
Carex vesicaria
(Inflated Sedge)

Characteristics: Rhizomatous perennial up to 2 ft. tall with a 3-angled stem. Leaves are ⅓ in. wide. Male flowers are on narrow terminal spikes; female flowers are in fat, oblong, upright spikes 1-1½ in. long. Flowers have 3 stigmas, and the leathery straw-colored perigynia are long tapered and teardrop shaped. Flowers June-July.

Habitat: Wet meadows and around lake margins, growing with other sedges.

Notes: Can be confused with shore sedge, *C. utriculata*, which has more rounded and abruptly beaked perigynia. Inflated sedge fruits point away from the axis of the spike at 45 degrees, shore sedge at 90 degrees.

CYPERACEAE
Eleocharis pauciflora
(Few-flowered Spikerush)

Characteristics: Rhizomatous perennial less than 1 ft. tall, with slender, rounded stems. Leaves are small and scale-like at the base of the plant. The single, terminal spike has 3-9 bisexual flowers without any leaf-like bracts. Fruits are urn shaped, rounded with tapered tops, and have bristles at the base. Flowers June-July.

Habitat: Wet meadows and around lake margins growing with sedges.

Notes: Common spikerush, *E. palustris*, grows up to 3 ft. tall, has 10 or more flowers per spike, and has flattened fruits with distinctive caps at the top.

Grasses and Grass-like Plants

CYPERACEAE
Scirpus acutus
(Tule Bulrush)

Characteristics: Rhizomatous perennial up to 10 ft. tall. Stems are solid, round, and dark green with reduced leaves at the base. Flowers are bisexual and located in multiple gray-brown ¾ in. spikes originating from the side of the stem near the tip. Styles are divided into 2 parts. Fruits are flattened and rounded with short beaked tops and bristles at the base. Flowers June-July.

Habitat: Marshes and ditches. Often in standing water with cattails.

Notes: Also called hardstem bulrush. Provides food, cover, and nesting habitat for waterfowl and other birds. Used in watershed restoration projects for bank stabilization and to filter sediments and nutrients out of water.

CYPERACEAE
Scirpus microcarpus
(Small-fruited Bulrush)

Characteristics: Coarse rhizomatous perennial up to 4 ft. tall with 3-angled stems. Leaves are ½ in. wide, and flat, with a reddish coloration on the sheath. Flowers are terminal in umbel-like clusters with long, leaf-like bracts at the base. Flowers have 2 stigmas and the fruits are flattened. Flowers June-July.

Habitat: Wet meadows, springs, and streamsides.

Notes: Congdon's bulrush (*S. congdonii*) is similar, but has flowers with 3 stigmas and 3-angled fruits.

JUNCACEAE
Juncus balticus
(Baltic Rush)

Characteristics: Perennial ½-2½ ft. tall, with extensive, thick, often curly rhizomes. The stem is rounded, hollow, and leafless. The inflorescence appears to come off the side of the stem, due to a stiff-pointed bract that originates below the flowers and extends above them. The tiny flowers have 6 brown tepals and are arranged in panicles of 5-50. Fruits are capsules with numerous seeds. Flowers June-July.

Habitat: Seasonally moist meadows and ditches to wetlands. Widespread.

Notes: Variable in size and often in dense patches. Stems may be curly as well as rhizomes. Several other species of rush occur in the area. Remember, "sedges have edges (sometimes!) and rushes are round."

JUNCACEAE
Juncus nevadensis
(Nevada Rush)

Characteristics: Perennial ½-2½ ft. tall from creeping rhizomes. The stem is slender, rounded, and longer than the leaves. Leaves are less than ⅛ in. wide, cylindric, and have complete crosswalls. Papery leaf sheaths circle the stems and terminate in ear-like appendages. The tiny flowers have 6 brown tepals. Flowers are arranged in 1-10 head-like clusters at the top of the stem. Flowers June-Aug.

Habitat: Wet meadows, lake margins, springs, and streams.

Notes: Run your fingers along the leaves to feel the "bumpy" crosswalls. Another distinctive rush is *J. ensifolius*, which has iris-like leaves with the flat edge toward the stem.

Grasses and Grass-like Plants

JUNCACEAE
Luzula glabrata var. hitchcockii
(Smooth Woodrush)

Characteristics: Rhizomatous perennial with broad, flat, grass-like leaves up to 1 ft. tall. Flowers are tiny and inconspicuous with 6 purple-brown tepals. Flowers occur singly at the ends of uneven panicle branches. Fruits are shiny purple-brown capsules with a point on top. Each capsule has 3 tiny seeds. Flowers July-Aug.

Habitat: Subalpine forest and meadows. Common at Crater Lake NP.

Notes: Other species of woodrush occur in the Klamath Basin and are typically found in wet habitats.

POACEAE
Achnatherum occidentale
(Western Needlegrass)

Characteristics: Perennial bunchgrass 10-24 in. tall. Leaves are narrow and inrolled. The inflorescence is a narrow panicle with 1-flowered spikelets. The cylindrical seeds are hairy, sharp pointed on the ends, and have a ½-1½ in. long awn that is hairy and bent twice. Flowers May-July.

Habitat: Shrublands to high elevation ridges. The dominant grass in pumice soils.

Notes: Named for the sharp-pointed seeds with long awns that look like spears or needles. Provides good forage before awns develop and make the seed heads unpalatable. Formerly called *Stipa occidentalis*.

POACEAE
Bromus tectorum
(Cheatgrass)

Characteristics: Annual 6-24 in. tall with minimal roots; bright green in the early spring, turning reddish as seeds develop. Leaves are flat and soft-hairy. The inflorescence is an open, drooping panicle with 3-7 flowered spikelets. Seeds are sharp pointed with a long straight awn on the lemma. Flowers April-June.

Habitat: Dry disturbed sites with sandy or poor soils.

Notes: This non-native annual often displaces native bunchgrasses and alters shrubland ecosystems. Fires spread rapidly in areas dominated by cheatgrass. The pointed seeds with long awns, called "foxtails," get stuck in clothing and dog's ears, and make the grass unpalatable to livestock by early summer.

POACEAE
Danthonia unispicata
(One-spike Oatgrass)

Characteristics: Tufted perennial up to 12 in. tall, with hairy leaf sheaths and a single spikelet per stem. Spikelets have 3-6 flowers. The lemmas have 2 long pointed teeth at the top and a twisted awn on the back. Flowers June-July.

Habitat: Dry to moist meadows.

Notes: California oatgrass has 1-4 spikelets in a spreading panicle. Intermediate oatgrass lacks the hairy leaf sheaths and has 5-10 upright spikelets in a narrow panicle.

Grasses and Grass-like Plants

POACEAE
Deschampsia caespitosa
(Tufted Hairgrass)

Characteristics: Perennial bunchgrass densely tufted and 10-40 in. tall. Leaves are mostly basal, and can be flat or inrolled. The inflorescence is a 4-10 in. long open panicle with glistening, purplish, 2-3 flowered spikelets. The lemmas have toothed tips and a bent awn originating from below the middle. Flowers June-Aug.

Habitat: Moist to wet meadows and the edges of wetlands. Often the dominant grass.

Notes: *Deschampsia danthonioides* (annual hairgrass) often grows in disturbed areas. It is shorter, and grows as solitary plants instead of in clumps.

POACEAE
Elymus elymoides
(Squirreltail)

Characteristics: Perennial bunchgrass 12-24 in. tall. Leaves are flat to inrolled, 2-8 in. long, and often stiff and grayish green. The inflorescence is a 1-6 in. long spike with usually two 1-6 flowered spikelets per node. Glumes are narrow, 1-4 in. long, and awn-like. Lemmas have spreading awns 2-4 in. long. The numerous long awns make the seed head look like a squirreltail when mature. Flowers June-Aug.

Habitat: Widespread in open or disturbed habitats at all elevations.

Notes: Poor forage grass because of the long awns. Often an indicator of early seral communities. Squirreltail is used for restoration after disturbances because it competes well with cheatgrass.

POACEAE
Festuca idahoensis
(Idaho Fescue)

Characteristics: Perennial bunchgrass 10-30 in. tall. Leaves are 2-5 in. long, thin, inrolled, light bluish-green, and tufted at the base. The inflorescence is an open panicle that often droops at the top. Each spikelet has 4-8 flowers with short awns on the lemmas. Flowers June-July.

Habitat: Shrublands, dry meadows, ponderosa pine forest.

Notes: An important forage plant for wildlife and cattle. Idaho fescue usually indicates a good range condition. Easy to identify by the dense clump of fine, bluish-green leaves and awns on the lemmas.

POACEAE
Leymus cinereus
(Basin Wildrye)

Characteristics: Large clumped perennial 3-10 ft. tall. Leaves are blue-green, flat, and up to ¾ in. wide. Flowers are in dense, stiff, spikes with 2 or more spikelets per node. Lemmas have short points. Flowers June-July.

Habitat: Shrublands, open woodlands, often in washes or ditches. Somewhat tolerant of saline soils.

Notes: Basin wildrye sometimes looks out of place because of its large size. Reed canarygrass is also large, but is bright green, strongly rhizomatous, and generally in wet areas.

Grasses and Grass-like Plants

POACEAE
Phalaris arundinacea
(Reed Canarygrass)

Characteristics: Coarse, strongly rhizomatous perennial up to 5 ft. tall. Leaves are bright green, flat, and up to ½ in. wide. The inflorescence is a compact panicle, usually tan colored when seeds are ripe. Spikelets have 1 main flower and 2 vestigial flowers represented by hairy sterile lemmas. Flowers June-Aug.

Habitat: Wet meadows, ditches, and lakeshores. Abundant around Upper Klamath Lake.

Notes: Can form monocultures and dense mats that exclude other species. Reed canarygrass is probably native to North America, but aggressive forms are thought to be cultivars introduced for pasture or hay.

POACEAE
Poa bulbosa
(Bulbous Bluegrass)

Characteristics: A densely tufted perennial grass up to 2 ft. tall with small bulbs at the base of the stems. Leaves are 2-4 in. long, narrow, flat to folded and light green early in the season. The inflorescence is spreading, with many of the flowers replaced by small purple bulbs with long green tips. Flowers April-June.

Habitat: Shrublands to open forests, especially disturbed areas.

Notes: A non-native weed of both lawns and wildlands. It is one of the first grasses to green up in the spring and dies back early in the summer. It can be identified vegetatively by the dense bright green clumps of leaves with underground bulbs.

POACEAE
Poa pratensis
(Kentucky Bluegrass)

Characteristics: Perennial grass up to 3 ft. tall with sod-forming rhizomes. Leaves are flat to folded, with tips like the prow of a canoe (a trait of *Poa*). The inflorescence is an open panicle, shaped like a pyramid, with 3-5 flowered spikelets. The lemmas have distinctive cobwebby hairs and no awns. Flowers June-Sept.

Habitat: Moist to dry meadows, streamsides, and disturbed areas.

Notes: A non-native species commonly used in pasture and lawn mixes because it withstands grazing and mowing. Kentucky bluegrass has become widespread, and can replace native grasses on disturbed sites.

POACEAE
Poa secunda
(Sandberg Bluegrass)

Characteristics: Perennial bunchgrass 4-12 in. tall, with wiry, often reddish or purplish stems. Leaves are tufted at the base, and 1-2 in. long with flat blades that are inrolled or folded. The inflorescence is a 2-4 in. long open to dense panicle with 3-5 flowered spikelets. Lemmas are purplish with short hairs and no awns. Flowers May-June.

Habitat: Shrublands, scablands, and dry meadows, often shallow soils or sites disturbed by fire or grazing.

Notes: Provides forage for livestock and wildlife early in the summer. Sometimes seeded after fire, logging, or other disturbances because it competes well with cheatgrass.

POACEAE
Pseudoroegneria spicata
(Bluebunch Wheatgrass)

Characteristics: Perennial bunchgrass 1-3 ft. tall. Leaves are narrow, bluish-green, pointed, and flat to inrolled. The inflorescence is a spike with zig-zagging spikelets arranged alternating in two rows and flatwise toward the stalk. Lemmas have awns about 1 in. long that twist and stick out to the sides as seeds mature. Flowers June-Aug.

Habitat: Shrublands and ponderosa pine woodlands, mostly east of Hwy 97.

Notes: A valuable forage plant for wildlife and cattle. Formerly called *Agropyron spicatum*. Many non-native wheatgrasses have been introduced. Intermediate wheatgrass, *Elytrigia intermedia*, is bluish-green, lacks awns, and is common along forest roads.

POACEAE
Secale cereale
(Cereal Rye)

Characteristics: Non-native annual or biennial up to 4 ft. tall. Leaves are flat and about ⅓ in. wide. The inflorescence is a flattened spike with the 2-flowered spikelets dense and alternating on either side of the stalk. Lemmas have straight awns 1-2 in. long. Flowers May-July.

Habitat: Roadsides, burns, and other disturbed places.

Notes: A cereal crop also planted for forage and erosion control. Cereal rye forms dense stands that exclude other species and is now considered invasive in most states.

TYPHACEAE
Typha latifolia
(Broad-leaved Cattail)

Characteristics: Emergent grass-like perennial 3-10 ft. tall with rhizomes. Stems are rounded and erect. Leaves are long, dark green, and strap like. Flowers are in dense cylindrical brown spikes. Flowers June-July.

Habitat: Ponds, lake margins, canals and ditches, often growing in pure stands.

Notes: This species occurs across the United States and in several other countries. Seeds may be transported long distances in mud on the feet of birds. Cattails provide habitat for waterfowl and attract nesting red-winged blackbirds. Muskrats use the foliage to construct their lodges. Cattail marsh plays an important role in water filtering.

LICHENS
Alectoria sarmentosa
(Witch's Hair)

Characteristics: Pale yellow-green fruiticose lichen 5-16 in. long. Branches are thin, round, and tangled like coarse hair.

Habitat: Moist mixed conifer and subalpine forest, hanging from the branches and trunks of conifers.

Notes: Deer will eat this species in the winter and rodents and birds use it for nests. *A. imshaugii* also occurs in our area and has pointed isidia that project at right angles. Alectorias are similar to *Usnea* species; however, Usneas have a white, elastic-like center cord.

Lichens, Bryophytes, and Blue-green Algae

LICHENS
Bryoria sp.
(Horsehair Lichen, Black Tree Lichen)

Characteristics: Dark reddish brown to blackish fruiticose lichens 4-24 in. long. Branches are thin, round, and tangled like coarse hair.

Habitat: A variety of forest types, hanging from the branches of conifers.

Notes: Several different *Bryoria* species occur in our area and are difficult to tell apart. Commonly thought of as "black moss," these lichens are composed of fungal material with imbedded algal cells. Mosses, on the other hand, are green plants with small leaves.

LICHENS
Cladonia fimbriata
(Trumpet Lichen)

Characteristics: Light green lichen with small, flat, ear-like "squamules" on the ground and upright hollow stalks. Stalks are trumpet or golf tee shaped, with a cup at the top and powdery soredia on both the inside and outside of the cup.

Habitat: Coniferous forest on rotted wood or soil, often in riparian areas with mosses.

Notes: Also called pixie cup lichen. There are several *Cladonia* species in our area. The "squamules" of all species look very similar, and the upright stalks, or "podetia" are needed for identification. Some podetia have cups at the top, some have colored head-like apothecia.

LICHENS
Hypogymnia imshaugii
(Imshaug's Tube Lichen)

Characteristics: Gray to grayish-green foliose lichen 1-3 in. long. Lobes are branched, narrow, and tubular; white on the inside, black underneath. Apothecia are brown.

Habitat: Mixed conifer to subalpine forest, most often on dead branches.

Notes: Often growing with *Platismatia glauca* and other lichens on the lower branches of white fir. If you break open one of the hollow lobes, you will see a white interior, a key identifying feature for this species.

LICHENS
Lecidea tesselata
(Gray Tile Lichen)

Characteristics: A gray to bluish-gray crustose lichen with a cracked surface sometimes showing a black layer below. Apothecia are black and flush with the thallus.

Habitat: Rocks at a wide range of elevations.

Notes: Widespread and common, often growing on the same rocks as *Grimmia* and the bright yellow cracked lichen, *Pleopsidium chlorophanum*. Lichens are important colonizers because of their ability to withstand drought and temperature extremes. They inhabitat sites where neither the fungal partner nor the photosynthetic partner could survive alone.

Lichens, Bryophytes, and Blue-green Algae

LICHENS
Letharia vulpina
(Wolf Lichen)

Characteristics: Fluorescent yellow-green fruiticose lichen, with narrow, round, wrinkly lobes that grow in tangled clumps about 3 in. wide. Isidia and soredia are present and apothecia generally absent.

Habitat: Sunny forest openings most often on dead conifer branches and stumps, sometimes on fence posts and rocks.

Notes: Contains vulpinic acid, which is a yellow dye and also toxic. The name comes from its reported use in wolf poison, mixed with animal fat and nails. This lichen does not tolerate snow burial, so where it grows is an indicator of snow levels. *L. columbiana* is similar, but lacks isidia and soredia, and usually has large, round, brown apothecia.

LICHENS
Parmeliopsis hyperopta
(Gray Starburst Lichen)

Characteristics: Pale gray foliose lichen more or less rounded, and up to 2½ in. wide. Lobes are flat, narrow, and tightly appressed to the substrate, with a dark brown lower surface.

Habitat: Mixed conifer or subalpine forest on live trees, stumps, and logs. Common on the smooth bark of small diameter white fir.

Notes: Can be confused with *P. ambigua*, which often grows on the same trees and is almost identical except for its yellowish-green color. Both species are tolerant of being buried by snow.

LICHENS
Platismatia glauca
(Rag Lichen)

Characteristics: Pale gray to green foliose lichen, irregular and up to 6 in. long. Lobes are broad, up to 1 in. wide, loose, and leafy, with "torn" edges. The lower surface is black, brown, or white, often with patches of the different colors.

Habitat: Widespread on tree trunks and live or dead branches in mixed conifer and subalpine forests.

Notes: Look for the multi-colored lower surface, and loose, "ragged" lobes. Lichens absorb materials from atmospheric sources like precipitation and dust. Many are damaged by air pollution. Species that are widespread and tolerant of pollution, like *P. glauca*, can be be sampled and tested to determine pollution levels over large geographic areas.

LICHENS
Rhizocarpon geographicum
(Map Lichen)

Characteristics: A bright yellow-green crustose lichen with the surface layer broken up into separate tile-like pieces showing a black layer below. Apothecia are black.

Habitat: Rocks at a wide range of elevations. Common on lava flows in the mountains.

Notes: Map lichen is one of the species used in "lichenometry," which studies the age of rock exposure based on the rate of colonization and growth of lichens. Lichenometry is now being used to measure the rate of glacier retreat with global warming. Many rock lichens grow only a few millimeters (or less) each year.

Lichens, Bryophytes, and Blue-green Algae

LICHENS
Umbilicaria hyperborea
(Rock Tripe)

Characteristics: Dark brown to blackish foliose lichen with a rounded or lobed thallus up to 2 in. wide. The thallus has small rounded ridges on top. The underside is smooth and blackish with a single short central stalk attaching it to the rock substrate.

Habitat: Rocks, often in full sun, at a range of elevations.

Notes: *Umbilicaria* species can be boiled and eaten as survival food, hence the common name "rock tripe." The scientific name comes from the single central attachment, like an umbilical cord. This species is common at Devil's Garden.

BRYOPHYTES
Dicranum tauricum
(Fragile Forkmoss)

Characteristics: Dark green moss with forked, densely tufted upright stems ¼-½ in. tall. Leaves are crowded, long, and narrow, usually with broken tips. Sporopytes have thin yellowish stalks about ½ in. tall, and narrow, upright capsules with a long pointed top.

Habitat: Dry to moist mixed conifer forest, common at the base of trees, or on downed logs.

Notes: Fragile forkmoss forms dense carpet-like patches. The long pointed tips of the leaves easily break off leaving blunt ends, a key identifying feature.

BRYOPHYTES
Grimmia sp.
(Rock Moss)

Characteristics: Small yellowish to dark green moss with upright stems, forming mounded cushions about 1-2 in. wide. Leaves are usually lanceolate with white hair points at the ends. Sporophytes have short stalks (less than ¼ in.) and fat capsules with a short pointed top.

Habitat: Rocks at all elevations.

Notes: About half a dozen *Grimmia* species occur in our area, found on rocks with lichens and other mosses. The hair points often give the plants a grizzled look. Although some mosses have features that can be identified in the field, many are best differentiated based on cell shape, which requires a compound microscope.

BRYOPHYTES
Marchantia polymorpha
(Lung Liverwort)

Characteristics: Lobes are dull green, flat, and ribbon-like, up to ½ in. wide, with a distinct mid rib and pores visible with a hand lens. The lower surface is purplish with dark hair-like "roots." Plants are either male or female and grow in separate clumps. Male plants have umbrella-like structures at the top of long stalks. Female plants have finger-like lobes at the top of long stalks.

Habitat: Streamsides and around seeps and springs with mosses and other liverworts.

Notes: This species is mostly limited to wet sites in our area, but is more abundant elsewhere. It can be a weed in greenhouses and is frequently found in burns and other disturbed areas.

Lichens, Bryophytes, and Blue-green Algae

BRYOPHYTES
Polytrichum commune
(Haircap Moss)

Characteristics: Dark green moss about 1 in. tall, with erect unbranched stems. Leaves are thick, narrow and pointed, with teeth along the margins near the end. Leaves are spiraled up the stem and bend out at a right angles. Sporophytes have long wiry stalks and 4-angled capsules topped with a pointed hairy cap.

Habitat: Common on soil in moist conifer forests, at low to upper elevations.

Notes: The erect stems resemble tiny conifer trees. The square sporophyte capsule distinguishes the genus *Polytrichum* from other mosses. *P. juniperinum* is also common, its leaves lack teeth and have reddish points. Both species look shriveled and twisted during dry periods, becoming lush again after rain.

BLUE-GREEN ALGAE
Aphanizomenon flos-aquae
(Klamath Blue-green Algae)

Characteristics: A simple, primitive, photosynthetic species more closely related to bacteria than algae, and now classified as a "cyanobacterium." Forms tiny spindle-shaped filaments. When abundant, it turns lakes a pea-soup green color. On closer inspection, millions of individual filaments can be seen suspended in the water.

Habitat: Warm water bodies with a high nutrient content (especially phosphorous).

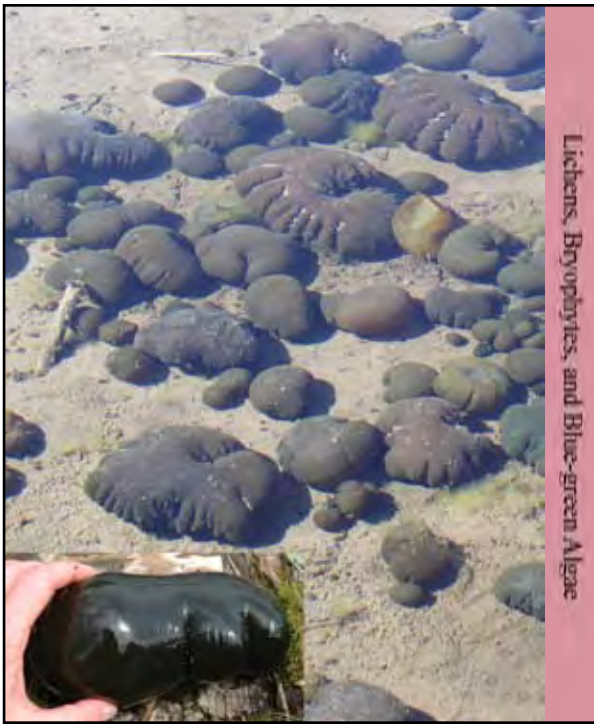
Notes: Upper Klamath Lake often has massive "blooms" of A. flos-aquae during the summer. Rapid die-offs follow blooms. In addition to smelling bad, decomposing filaments use up oxygen and contribute to poor water quality.

BLUE-GREEN ALGAE
Nostoc pruniforme
(Mare's Eggs)

Characteristics: A blue-green alga or cyanobacterium that forms rounded to oblong colonies that are greenish brown and range in size from about 1-8 in. long. The outer surface is leathery and the inside is gelatinous. Small budding colonies may be present on the surface of large ones.

Habitat: Cold clear springs low in nitrogen. Found at Mare's Egg Spring north of Rocky Point and in Spring Creek.

Notes: You can guess what these are named for! Although the species has wide distribution, there are only a few places in the world where it forms such large colonies. Please help preserve these unusual occurrences in Klamath County.



SCIENTIFIC NAMES INDEX

COMMON NAMES INDEX

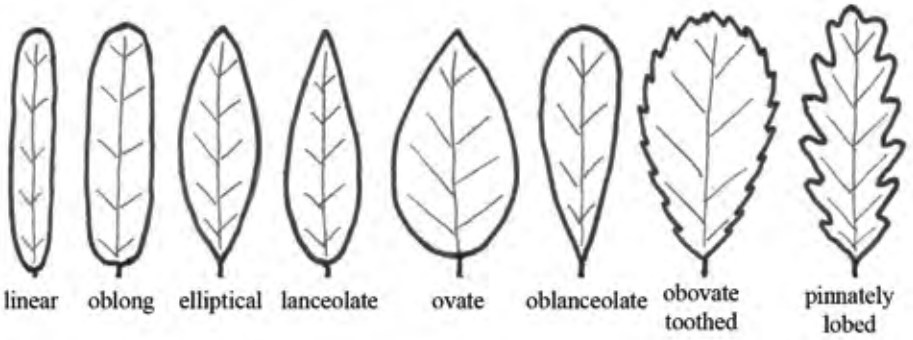
GLOSSARY

achene. A dry, single seeded fruit like a sunflower seed.
alternate. Having one leaf or branch per node. Most plants have alternate leaves, unless noted.
annual. Plant that completes its life cycle (germinates, flowers, sets fruit, dies) in 1 year.
anther. The pollen producing structure located at the top of the stamen.
apothecium. Spore producing disk or shallow cup-like feature on lichens, often a different color than the thallus.
awn. A pointed bristle-like appendage.
axil. The position just above the attachment of a leaf to the stem.
basal. At the base of a plant or structure.
berry. Fleshy fruit with small seeds; e.g., a huckleberry.
biennial. Plant that completes its life cycle in 2 years with only vegetative growth the first year.
bilateral symmetry. Can be cut into equal halves in only one way. Two-lipped and pea-like flowers are bilateral.
bisexual. Flowers that have both fertile stamens and pistils.
bract. Sterile leaf or scale-like structures in an inflorescence.
bulb. A short underground stem with layered fleshy leaves that stores food, like an onion.
bunchgrass. Grasses with fibrous roots that grow in single clumps.
calyx. The outermost whorl of flower parts below the corolla; the sepals of a flower as a group.
capsule. Dry, multi-seeded fruit from an ovary with more than 1 chamber, opening with pores, slits, or valves.
catkin. Small cylindrical, compact spike of numerous, tiny, 1-sex flowers (often male) usually without petals.
caudex. Short woody base of a stem at or below ground level.
compound leaf. A leaf divided into separate leaflets.
corm. Short, thick underground stem often surrounded by dry leaf bases.
corolla. The whorl of flower parts just inside the calyx; the petals of a flower as a group.
crustose. Lichens with a crust-like growth tightly attached to the substrate.
cyme. Branched, often coiled, flower cluster with the top flowers maturing first.
deciduous. Having leaves that are shed at the end of each growing season. Unless noted as evergreen, plants in this book are deciduous.
disk flower. In the aster family, small bisexual flowers with tubular, radially symmetrical, five-lobed corollas.
drupe. Fleshy fruit with a single stoney seed, like a cherry.
elliptical. Shaped like a flattened circle, widest in the middle.
emergent. Plant rooted below water with the upper portion above the surface. Aquatic plants are submerged or floating.

entire. Without teeth.
evergreen. Having leaves that persist for more than one season.
exerted. Protruding; e.g., stamens that extend beyond the petals.
foliose. Lichens that have a flattened thallus loosely attached to the substrate.
follicle. Dry, multi-seeded fruit from a 1-chambered ovary opening on 1 edge.
fruit. The structure in flowering plants that develops from the ovary and encases the seed(s). Can be dry or fleshy.
fruticose. Shrubby or hair-like lichens. Branches are round in cross section without an upper and lower surface.
galea. The upper beak-like lip typical of paintbrush and owl-clover flowers.
glabrous. Lacking hairs.
gland/glandular. Small rounded structures that produce sticky substances. Glands can be at the tips of hairs or embeded in the epidermis.
glaucous. Having a waxy whitish or bluish coating, which often gives foliage a blue-green color.
glumes. Pair of bracts at the base of a grass spikelet.
head. Dense rounded flower cluster. In the aster family, heads are enclosed in a cup-like involucre made up of bracts called phyllaries. Aster heads can be discoid, composed entirely of disk flowers (e.g., thistles); ligulate, composed entirely of ligulate flowers (e.g., dandelions); or radiate, composed of central disk flowers ringed by ray flowers (e.g., daisies).
inferior ovary. Petals, sepals, and stamens arise from near the top of the ovary (the ovary is below).
inflorescence. An entire cluster of flowers and associated bracts.
involucre. Set of bracts beneath an inflorescence.
isidia. Asexual reproductive structures on lichens that are small finger-like projections.
lanceolate. Narrowly elongate, broadest below the middle, and pointed at the end.
legume. Dry or fleshy fruit from a 1-chambered ovary opening along 2 edges, like a pea pod.
lemma. In the grass family, the lower of the 2 bracts enclosing a flower or seed, usually larger than the palea.
ligulate flower. In the aster family, a bisexual, bilateral flower that has a long strap-like portion with 5 small lobes at the tip.
linear. Long and narrow; e.g., grass leaves.
lobe. A major division or projection of a leaf, petal, or bract.
nectary. Structure that secretes nectar, often located at the base of a petal, or in a spur.
node. The point of attachment of a leaf or leaves.
nutlet. Small hard fruits produced in the mint and borage families.
oblanceolate. Narrowly elongate, broadest above the middle.
oblong. Longer than wide with parallel sides and rounded ends.
obovate. Egg shaped and broadest above the middle.

opposite. Having two leaves or branches per node (paired).
ovary. Female structure in flowering plants that encloses the seeds and develops into the fruit.
ovate. Egg shaped, broadest below the middle.
palea. In the grass family, the upper bract of the 2 bracts enclosing a flower or seed.
palmate. Palm-like, with leaflets or lobes radiating from a common point (e.g., a lupine leaf).
panicle. A branched inflorescence with flowers maturing from the bottom up (e.g., oceanspray).
pedicel. Stalk of an individual flower or fruit.
perennial. Plant that lives more than 2 years. Used in this book to indicate persistant, non-woody plants.
perianth. The calyx and corolla together.
perigynium. In sedges, the sac-like fruit that encases a single seed.
petal. An individual part of the corolla, often colored and showy.
petiole. A leaf stalk.
phyllaries. Bracts that make up the involucre around flower heads in the aster family. Often used in identification.
pinnate. Feather-like, with leaflets or lobes occurring on either side of a long axis (like fern fronds). The divisions may be further divided, described as 2 times pinnate, or 3 times pinnate.
pistil. Female structure of a flower. Consists of an ovary at the base, a style, and a stigma at the top.
raceme. An unbranched inflorescence with pedicels of nearly uniform length that come off a central axis. Flowers usually mature from the bottom up. Common in the mustard family.
radial symmetry. Can be cut into equal halves in 3 or more ways (like a pie), meaning petals are alike and sepals are alike. Most flowers have radial symmetry unless noted as bilateral.
ray flower. In the aster family, a bilateral female or sterile flower located around the margin of the flower head (often mistaken for petals). The long strap-like part of the corolla has 0 or 3 lobes at the tip.
reduced. Gradually smaller, as in leaves reduced up the stem.
reflexed. Bent backward.
rhizome. Creeping, root-like, underground stem. Rhizomatous plants usually grow in patches with multiple stems.
rosette. A circle of leaves at ground level.
sepal. An individual part of the calyx, sometimes colored, but often green.
sessile. Flower or leaf attached directly to the main axis without a pedicel or petiole.
sheath. The base of a leaf that wraps around a stem.
simple. Not divided into separate segments.
soredia. Asexual reproductive structures on lichens that look powdery or granular.

sori. Clusters of spore-producing structures in ferns, often on the underside of the leaves.
spike. An inflorescence without pedicels; flowers are attached directly to the main axis. Spike-like is used to indicate compact racemes with short pedicles.
spikelet. In the grass family, groupings of 1 or more flowers with 2 bracts (glumes) at the base.
spore. The dust-like reproductive units in ferns, horsetails, lichens, and mosses, which are often wind-dispersed.
squamulose. Lichens that form numerous small scale or ear-like lobes.
stamen. Male structure of a flower. Consists of a filament (stalk) and pollen producing anther at the top.
staminodes. Sterile, modified stamens, often hairy, or flattened and petal-like.
sterile. Having no reproductive function, i.e., not fertile.
stigma. The uppermost part of the pistil where pollen is deposited.
stipules. A pair of leaf-like structures at the base of the petiole where it joins the stem. Often found in willows, the rose family, and the pea family.
stolon. Trailing stem that roots at the nodes, as in strawberries.
substrate. The material a plant or lichen is growing on (e.g., rock, soil, wood).
superior ovary. Petals, sepals, and stamens arise from near the base of the ovary (the ovary is on top). Most plants have superior ovaries, unless noted.
tapered. Gradually narrowed.
taproot. A thickened, long-tapered root, like a carrot.
tepals. Applied to sepals and petals when they are more or less the same size and color, also referred to as perianth segments.
terminal. At the tip or end of a structure, often used to indicate the end of a branch or top of a stem.
ternate. Lobed or divided into 3's. A clover leaf is ternately compound.
thallus. The main body of a lichen.
tooth. A small, pointed projection along the margin of a leaf.
tube. The cylindrical part of flowers that have fused petals or sepals. The unfused tips of the petals or sepals are referred to as lobes.
tuber. Short, swollen, underground stem that stores food, like a potato.
umbel. An inflorescence with 3 or more pedicles of equal length meeting at a common point. Compound umbels have the branches of separate umbels meeting at a common point. Typical of the parsley family.
vascular plants. Plants with specialized tissue for transporting food and water.
veins. The vessels that transport nutrients and water in a plant, often evident in the leaves. Leaf veins are usually branched and net-like, curved, or parallel.
whorl/whorled. Three or more leaves, or branches per node. Can also apply to flowers in leaf axils around the stem, and to flower parts.
winged. Having a thin, flattened extension along the margin. Stems, petioles, and fruits are sometimes winged.


linear
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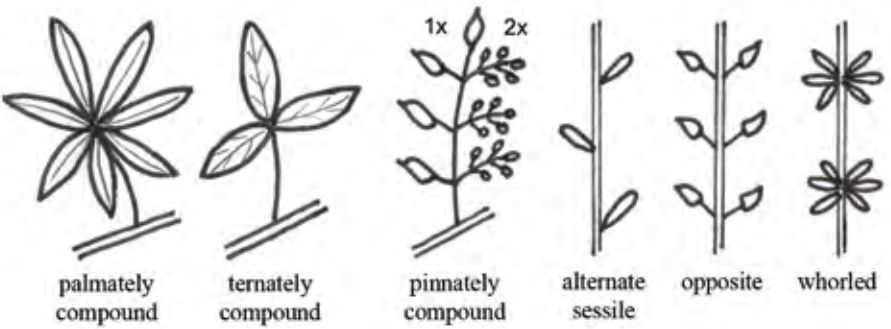
1x
2x
palmately
compound
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compound
pinnately
compound
alternate
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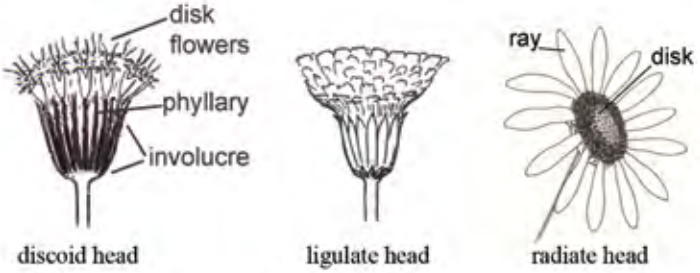
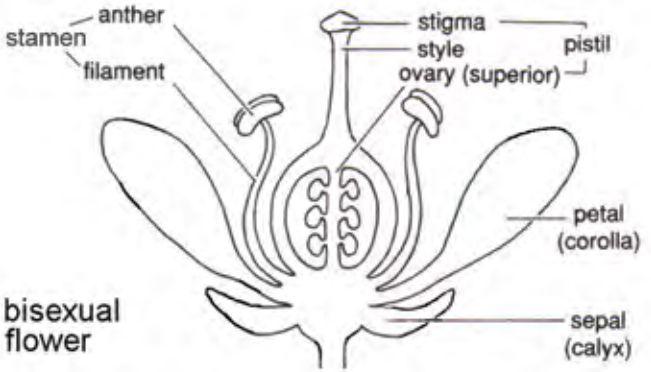
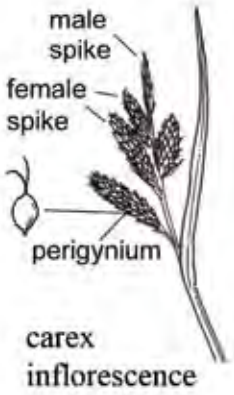
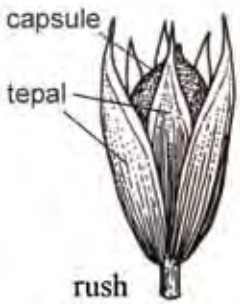
opposite
whorled


disk
flowers
phyllary
involucre
discoid head
ligulate head
ray
disk
radiate head

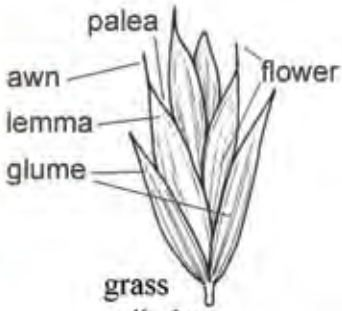

anther
stamen
filament
stigma
style
ovary (superior)
pistil
petal
(corolla)
sepal
(calyx)
bisexual
flower



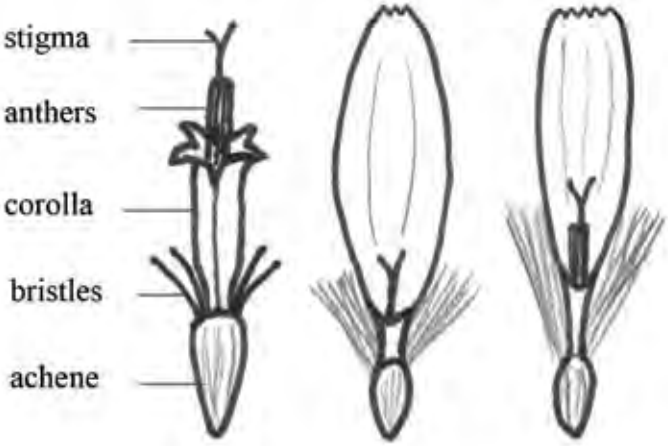
carex
inflorescence



rush
flower



grass
spikelet



disk flower ray flower ligulate flower

spike raceme panicle umbel

APPENDIX A: PLACES TO SEE WILDFLOWERS

Mileages are approximate and directions are from Klamath Falls. Many locations do not have improved trails or facilities and mosquitoes can be fierce in the early summer. Please do not collect plants or damage sensitive habitats in these areas. NF = National Forest, BLM = Bureau of Land Management, PPL = Pacific Power and Light Co. See also *Forest Trails of Klamath County*.

Cold Springs (NF): Go west on Hwy 140 3.5 mi. past Rocky Point and turn right (north) onto Forest Rd 3651. The road traverses through ponderosa pine, mixed conifer, riparian, and subalpine forest. All conifers except juniper can be seen in this area. Pacific yew occurs along Fourmile Creek downstream from the 1st bridge. Stops at the 2nd bridge (Lost Creek), Cold Springs Trailhead, and Big Meadows (north of Rd 3659 to the west) are recommended. The 980 spur just before the trailhead will take you to whitebark pine stands at the top of Pelican Butte. A high clearance vehicle is required for the 980 spur and recommended for Rd 3659.

Crater Lake NP: Go north on Hwy 97 and turn left onto Hwy 62 before reaching Chiloquin. Signs lead to the Park, which is about 45 mi. from Klamath Falls. The Park can also be accessed from the north off of Hwy 138. There are several developed trails, including the Castle Crest Wildflower Trail. This is a good area to visit in mid to late summer when flowers at lower elevations are past blooming.

Devil's Garden (NF): Go 15 mi. east on Hwy 140 past Dairy and turn left (north) onto Bliss Rd. Go 12 mi. and turn left onto Forest Rd 22. Go 1.3 mi. and turn left onto Forest Rd 860 (dirt) and go about ½ mi. The Garden will be on the left. Devil's Garden is the remains of a hydroclastic volcano, formed when magma contacted water, resulting in an explosion of ash that solidified over time. This area has dune-like formations, springs, and numerous wildflowers early in the year. A high clearance vehicle is recommended for Rd 860.

Gerber Reservoir (BLM): Go east on Hwy 140 to Dairy and turn right (south) onto Hwy 70. At Bonanza, turn right onto East Langell Valley Rd and go about 11 mi., then turn left onto Gerber Rd. The main reservoir is about 10 mi. from the intersection. Scablands, drainages, and reservoirs in the area have a variety of wildflowers in the spring.

High Lakes Trail (NF): Go west on Hwy 140 from Klamath Falls to the Great Meadow Sno-Park, just past the turnoff to Dead Indian Memorial Rd. This is the east end of the High Lakes Trail, which continues 9 mi. to Fish Lake. A variety of wildflowers occur in the meadow and along the riparian forest edge.

Klamath River Gauging Station (PPL): Go 2 mi. west of Keno on Hwy 66. A small parking area is on the right with a trail heading to the river. There are nice wildflower displays in the meadows and in rocky areas along the river in the spring.

Lava Beds NM: Go south on Hwy 139. Signs direct to the Lava Beds and Tule Lake National Wildlife Refuge. The distance is about 45 mi. This is a good place to see early spring flowers and species that like rocky habitats.

Link River: Located in Klamath Falls, the trail runs the length of the Link River and is accessed from a parking area off of Lakeshore Dr. on the north, and a parking area just past Favell Museum at the end of Main St. on the south. The trail is popular for picking plums and blackberries, and has a variety of native and introduced species.

Modoc Rim (NF): Go 14 mi. north on Hwy 97. Just after Hagelstein Park, turn right onto Forest Rd 9718, which steeply ascends the face of the fault scarp. Wildflowers, many shrubs, and impressive views of Upper Klamath Lake and the Cascades are seen along the road. After 2 mi., take the left fork (Forest Rd 9714) and go 0.7 mi. to Dry Lakes, two vernal ponds with several riparian species. The roads in this area can be rough, and a high clearance vehicle is recommended.

Perez (NF): Go south on Hwy 139 for 47 mi. past Tulelake and Newell. Turn left onto Forest Rd 136 (gravel) just after the Perez Overpass. Go about ½ mi. A rich variety of early spring wildflowers are found east of the road in a low area near an ephemeral creek.

Sevenmile Guard Station (NF): Go north on Hwy 97 and take Hwy 62 to Ft. Klamath. Turn left (west) onto Nicholson Rd and go 4 mi. Anemones, trillium, and violets flower under the conifers in late May. In July and August, there are many other species flowering in springs, seeps, and moist meadows, including leopard lily and wild ginger. To make the trip into a loop, return south by way of Forest Rd 3300 and the Westside Rd to Hwy 140. A high clearance vehicle is recommended for Rd 3300.

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