

**RARE PLANT GUIDE to the  
IDAHO FALLS FIELD OFFICE  
BUREAU OF LAND MANAGEMENT**

**A Bureau of Land Management  
Challenge Cost Share Project  
with  
Idaho Fish & Game  
Conservation Data Center**

**Spring 2003**



Photo © Douglass Henderson

*Primula alcalina*

# RARE PLANT GUIDE to the IDAHO FALLS FIELD OFFICE BUREAU OF LAND MANAGEMENT

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This book was compiled by Wendy Velman from the Idaho  
Fish and Game Web- based field guide found at:

<http://www.state.id.us/fishgame/info/cdc/cdc.htm>

Idaho Conservation Data Center. 2003. Rare plant guide to the Pocatello and Idaho Falls field offices, Bureau of Land Management. Idaho Department of Fish and Game, Boise.



Idaho Falls Field Office

## How to use this book:

If you think you have found a rare plant there are a few things that must be collected for verification.

1. Collect a sample to be verified by a qualified Botanist. To collect a plant, you must include the roots, all above ground portions, and it is extremely helpful if there are flower and/or fruits on the plants. Place the plant in a plastic bag with a moist paper towel and a label. The label should include: Date, your name, location, UTMs, and a description of the habitat.
2. You need to fill out an 'Idaho Rare Plant Observation Report'. Fill out as much information as you can and please take a GPS reading so the location can be found again.
3. Please take a close-up picture of the plant and a second picture of the habitat.
4. If the Office Botanist is not in the office, please put your plant **samples in a refrigerator** and leave a note for them.
5. If you run low on labels or forms, the field office botanist can supply you with more. If you bring in a plant in a plastic bag, you will get a new bag to replace it.

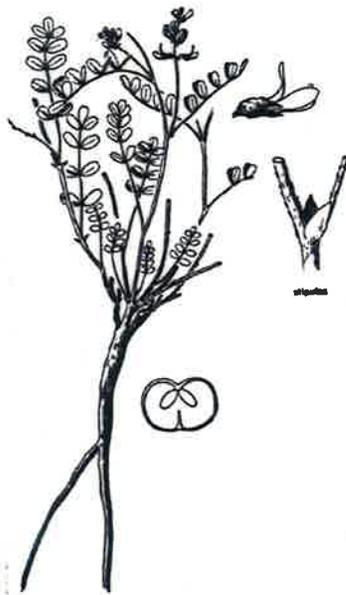
**Caution: Ute ladies'-tresses is the only threatened plant IFFO has, we have plenty of samples, DO NOT PICK!**



Photo © Robert K. Moseley

*Astragalus amnis-amissi*

*Astragalus amnis-amissi*  
Hitchcock, C. L., A. Cronquist,  
M. Ownbey, and J. W. Thompson.  
1961. Vascular plants of the  
Pacific Northwest. Part 3.  
University of Washington Press,  
Seattle. 614 pp. Illustration by  
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***Astragalus amnis-amissi* Barneby****Lost River milkvetch****Fabaceae** (Pea; Legume family)

**General Description:** A slender, low, weakly ascending perennial forb with a taproot and shortly forking above-ground caudex. The thinly pubescent herbage has short, sub-appressed, basafixed hairs pointing in the same direction. Leaves are compound with 7-13 elliptic to broadly egg-shaped, thin-textured leaflets, each 3-15 mm long. Leaflets are medium to dark semi-glossy green in color and generally tipped with an apical notch. The inflorescence is a loose raceme of spreading, small white flowers faintly marked with purple. The calyx is 4-6 mm long and has black or partly white appressed hairs. Fruit pods are sessile, moderately inflated, about 15-17 mm long by 7-8 mm in diameter, green or purplish, and with closely appressed short hairs.

**Field Identification Tips:** Lost River milkvetch's slender, weakly ascending habit, semi-glossy, relatively dark green, apically notched leaflets, small whitish flowers faintly marked with purple, somewhat inflated pods, and steep limestone cliff and associated talus habitat are good field characteristics.

**Phenology:** Flowering begins in early to mid-June and continues into July.

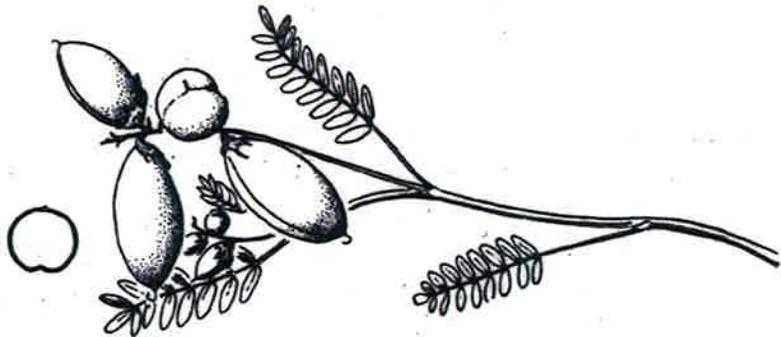
**Similar Species:** Lost River milkvetch is closely related to *Astragalus amblytropis* (Challis milkvetch), another species endemic to east-central Idaho. Challis milkvetch differs in several characteristics, including its buried root crown; a more divaricately branched habit; thicker-textured, silvery leaflets; dull straw-yellow flowers; and larger (20-35 mm long), more inflated fruit pods. *Astragalus alpinus* (alpine milkvetch) superficially resembles Lost River milkvetch, but has a slender, subterranean, adventitious root system, and narrower, pendulous, stipitate fruit pods.

**Habitat:** Ledges, crevices, and other outcrops on steep limestone cliffs, and talus along cliff bases; often in partial shade. Commonly associated with *Cercocarpus ledifolius*, *Petrophytum caespitosum*, *Draba oreibata*, *Erigeron caespitosus*, *Elymus cinereus*, and *Pseudotsuga menziesii*.

**Idaho Distribution:** Eastern and western slopes of the southern half of the Lost River Range, and the southern end of the Lemhi Range, in Custer and Butte counties.



Photo © Robert K. Moseley

*Astragalus aquilonius*

JRT

*Astragalus aquilonius*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1961. Vascular plants of the Pacific Northwest. Part 3. University of Washington Press, Seattle. 614 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.

*Astragalus aquilonius* (Barneby) Barneby

## Lemhi milkvetch

Fabaceae (Pea; Legume family)

**General Description:** A taprooted, herbaceous, short-lived perennial with numerous, decumbent or trailing stems up to about 35 cm long and often purplish-tinged. The herbage is greenish-ashy in color due to short, fine hairs. The compound leaves consist of 9-23 oval, oblong, or oblanceolate, rounded to apically notched leaflets 5-16 mm long. The inflorescence is a loose raceme of 4-15 greenish-white flowers, each about 1 cm long. The keel petal is often purplish tipped, while the calyx has white and gray-brown, more or less straight, appressed hairs. The one-celled fruit pods are 2.5-4 cm long by 1.3-1.7 cm in diameter, sessile, inflated, ellipsoid, membranous, green and not mottled, and glabrous to minutely hairy.

**Field Identification Tips:** Lemhi milkvetch is the only *Astragalus* species in east-central Idaho with a large, bladderly, unilocular fruit pod. Robust plants with numerous stems can have a low, rounded shape. The purplish-tinged stems and greenish-gray color of the herbage also help distinguish this species.

**Phenology:** Plants in flower from mid- to late May into July. Fruits may still be present into September.

**Similar Species:** The range of Lemhi milkvetch partly overlaps and is most likely to be confused with *A. amblytropis* (Challis milkvetch) because of its similar habit and greatly swollen fruit pod. Challis milkvetch differs, however, by having a two-chambered fruit.

**Habitat:** On dry, gentle to often steep and unstable slopes, talus, washes, alluvial debris, and flats. It occurs on various, but often southerly aspects having gravelly and sandy, to ashy and occasionally clayey soils. The surrounding shrub-steppe vegetation is dominated by *Artemisia tridentata* ssp. *wyomingensis*, *Atriplex confertiflora*, *Agropyron spicatum*, *Sitanion hystrix*, *Poa secunda*, and *Elymus ambiguous* var. *salmonis*. Along the Salmon River it is often associated with two other Challis region endemics, *Astragalus amblytropis* and *Oxytropis besseyi* var. *salmonensis*.

**Idaho Distribution:** The main center of distribution for Lemhi milkvetch includes the lower slopes of the Salmon River valley from near Ellis to Clayton, and the East Fork Salmon River upstream to the vicinity of Herd Creek. Populations are also known from the southern end of the Lemhi Range, the Lemhi River valley around Lemhi, and scattered locations in the Pahsimeroi and Lost River valleys.



Photo © Robert K. Moseley  
*Astragalus bisulcatus* var.  
*bisulcatus*  
in flower.

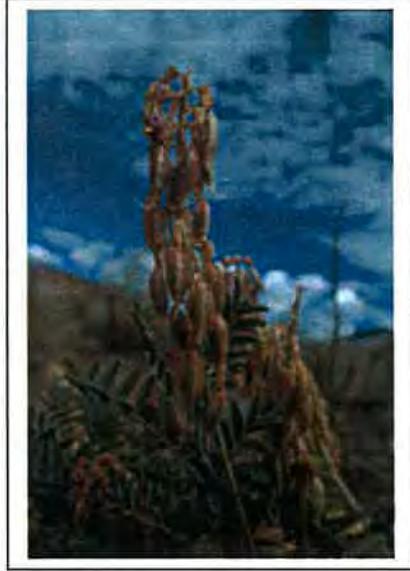


Photo © Robert K. Moseley  
*Astragalus bisulcatus* var.  
*bisulcatus* in fruit.

*Astragalus bisulcatus* var.  
*bisulcatus*  
Hitchcock, C. L., A. Cronquist, M.  
Ownbey, and J. W. Thompson. 1961.  
Vascular plants of the Pacific  
Northwest. Part 3. University of  
Washington Press, Seattle. 614 pp.  
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***Astragalus bisulcatus* (Hook.) A. Gray var. *bisulcatus***  
**Two-grooved milkvetch**  
**Fabaceae** (Pea; Legume family)

**General Description:** A stout, erect, clump-forming, leafy, and thinly pubescent perennial herb 15-70 cm tall. The compound leaves have 15-35, more or less oblong leaflets, each between 5 and 30 mm long. The inflorescence is a dense raceme of whitish or purplish flowers. The banner is 11-17 mm long, and longer than the wings or keel petal. The calyx is 5-10 mm long, often red-purple, with thin white or black hairs, and the base swollen on one side. The pendulous, linear or narrowly oblong fruit pods have a short stipe, a thick papery texture, and are 10-20 mm long. The front face of the pod is openly grooved lengthwise along either side of the raised suture.

**Field Identification Tips:** Two-grooved milkvetch is recognized by its very leafy, clumpy habit, dense inflorescence of relatively large whitish to purplish flowers, basally pouched calyx, and pendulous, two-grooved fruit pod. Bagged plants and those drying in a plant press often give off a strong, disagreeable smell of selenium.

**Phenology:** Flowers May to August.

**Similar Species:** Two-grooved milkvetch is most likely to be confused with other robust, leafy milkvetches having many leaflets and many, relatively large flowers. *Astragalus canadensis* (Canada milkvetch) is most readily distinguished by its erect, sessile, more or less leathery-textured fruit pods. Additional distinguishing characteristics include its rhizomatous root system, pick-shaped pubescence, and greenish-white or yellowish-white-colored flowers. While the pods of *A. drummondii* (Drummond's milkvetch) are pendulous like two-grooved milkvetch, they differ in being bluntly three-angled in shape and having a longer stipe (5-11 mm long). In addition, the flowers tend to be larger (17-25 mm) and the foliage more hairy.

**Habitat:** Open grasslands, badlands, gullies, roadsides, and valley bottoms. In Idaho, populations occur in relatively moist sagebrush/grassland or creek bottom habitats, sometimes in degraded condition. Associated species include *Artemisia tridentata* ssp. *tridentata*, *A. tridentata* ssp. *wyomingensis*, *Rosa woodsii*, *Salix* spp., *Elymus cinereus*, *Agropyron smithii*, and *Poa pratensis*.

**Idaho Distribution:** Foothills of the southern Beaverhead and Centennial Mountain Ranges in Clark County, the Henrys Lake area in Fremont County, and the Lemhi River drainage in Lemhi County.

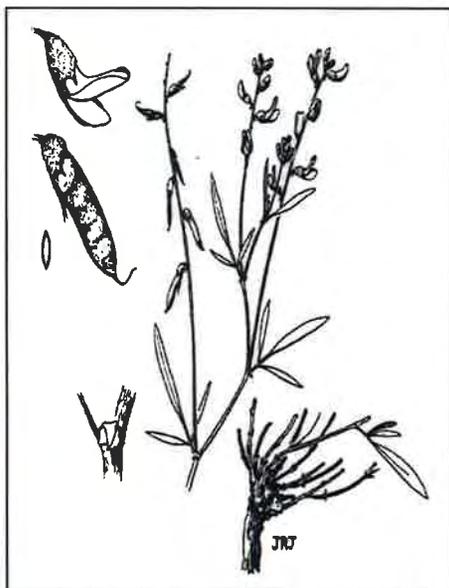


Photo © Robert K. Moseley

*Astragalus diversifolius*



Photo © Robert K. Moseley  
*Astragalus diversifolius* close-up



*Astragalus diversifolius*  
Hitchcock, C. L., A. Cronquist, M. Ownbey,  
and J. W. Thompson. 1961. Vascular plants  
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Press

***Astragalus diversifolius* Barneby**  
**Meadow milkvetch**  
**Fabaceae** (Pea; Legume family)

**General Description:** A diffuse or prostrate perennial forb with weak, slender, sparsely leafy, simple or branched stems radiating from the root crown. Leaves are 2-5.5 cm long, with 1-5 linear, grasslike, or ovate leaflets 2-5 mm broad. The terminal leaflet is always the longest and continuous with the leaf stalk. The inflorescence is a loose raceme of 2-8 white, cream, or yellowish-white flowers. The flowers are often faintly purplish-tinged/tipped, with the banner petal being 7-13 mm long. The calyx is 3.5-6.5 mm long and has short, appressed, black or white hairs. Fruit pods are oblong, straight or slightly curved, 10-17 mm long by 3-4 mm broad, with the thin green pod becoming papery and straw or gray-brown colored.

**Field Identification Tips:** The slender, often prostrate, sparsely leafy habit of meadow milkvetch, combined with a terminal leaflet larger than the lateral leaflets, makes this species relatively easy to identify. However, these same features can make it difficult to see in the field, especially if done flowering. The narrow leaflets mimic blades of grass and the whole plant becomes seemingly hidden in the vegetation.

**Phenology:** Plants begin to flower in June and peak during July. More fruits than flowers are observed by August.

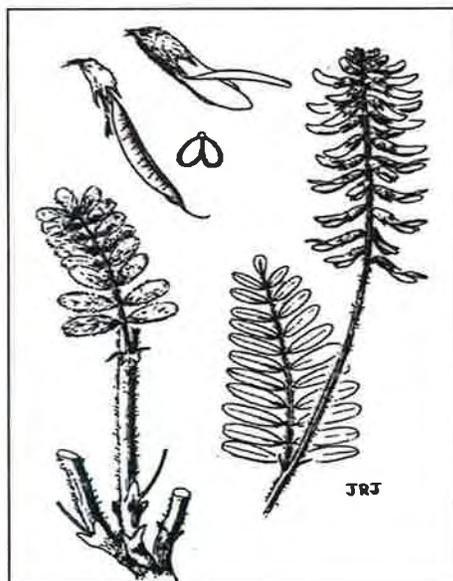
**Similar Species:** Meadow milkvetch is most likely to be confused with other diffuse-looking, sparsely leafy *Astragalus* species occurring within its range. *Astragalus convallarius* (lesser rushy milkvetch) has narrow fruits over 20 mm long, very narrow leaflets, and occurs in drier habitats. *Astragalus ceramicus* (painted milkvetch) has inflated, reddish- to purplish-mottled pods and occurs in dry, sandy habitats. *Astragalus leptaleus* (Park milkvetch) occurs in several of the same east-central Idaho wetland systems as meadow milkvetch. It is readily distinguished by having leaves with 15-25 leaflets, smaller flowers, and an inflorescence that does not extend much above the middle of the plant.

**Habitat:** Moist soils in alkaline meadows with flat or hummocky topography supporting graminoid or medium height shrub vegetation. Associated species may include *Juncus balticus*, *Poa juncifolia*, *Elymus cinereus*, *Spartina gracilis*, *Senecio debilis*, *Phlox kelsyi*, *Glaux maritima*, *Sarcobatus vermiculatus*, and *Potentilla fruticosa*.

**Idaho Distribution:** Most Idaho populations are located in Custer and Lemhi counties, in the intermountain valleys of the Big Lost, Little Lost, Pahsimeroi, and Lemhi rivers, and Birch Creek. The meadow milkvetch population reported from the upper Snake River Plain, near Springfield, in Bingham County, has probably been extirpated.



Photo © Robert K. Moseley  
*Astragalus drummondii*



*Astragalus drummondii*  
Hitchcock, C. L., A. Cronquist, M. Ownbey,  
and J. W. Thompson. 1961. Vascular plants of  
the Pacific Northwest. Part 3. University of  
Washington Press, Seattle. 614 pp. Illustration  
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Photo © Robert K. Moseley

*Astragalus drummondii*

***Astragalus drummondii* Douglas ex. Hook.**

**Drummond's milkvetch**

**Fabaceae** (Pea; Legume family)

**General Description:** A stout, villous-hairy, perennial forb with several erect stems 25-55 cm tall. The compound leaves have 13-33 oblong-elliptic to obovate, obtuse or notched bicolor leaflets that are pale green beneath and bright green above; the larger ones 12-30 mm long. Racemes have 15-30, nodding, white to yellow-white flowers on stout, erect stems 4-14 cm long. Banner petals are 15-25 mm long and the keel petal lilac-tipped. The calyx is 7-13 mm long and commonly has black hairs. The stipitate, hanging fruit pods are 17-32 mm long by 3-6 mm wide and more or less linear in profile with three blunt angles. Pods are green and totally hairless, have a prominent brown suture, and become almost leathery in age.

**Field Identification Tips:** Drummond's milkvetch is recognized by its course habit, foliage with spreading hairs, large, whitish, nodding flowers, and pendulous, stipitate, glabrous pods.

**Phenology:** Flowers in late spring, usually peaking in June and done by early to mid-July.

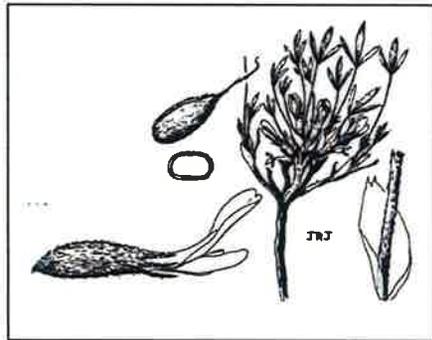
**Similar Species:** None of the several other *Astragalus* species that could co-occur in Idaho, such as *Astragalus miser* (weedy milkvetch), *A. convallarius* (lesser weedy milkvetch), *A. cibarius* (browse milkvetch), and *A. lentigenosus* (freckled milkvetch) should be confused with Drummond's milkvetch. Larger flowers, and several features of the fruit pod will distinguish Drummond's milkvetch from *A. bisulcatus* var. *bisulcatus* (two-grooved milkvetch).

**Habitat:** In Idaho, Drummond's milkvetch occurs in sagebrush-bunchgrass habitats on open, gentle to moderately steep, predominately south- to west-facing slopes with gravelly to rocky soils. Associated species include *Artemisia tridentata* ssp. *vaseyana*, *Chrysothamnus* spp., *Tetradymia canescens*, *Festuca idahoensis*, and *Agropyron spicatum*.

**Idaho Distribution:** Sagebrush plains and lower slopes along the southern Beaverhead and western Centennial ranges in northern and central Clark County. Also known from the eastern base of the Lemhi Range in the Birch Creek Valley, in the southwestern corner of Clark County.



Photo © Douglass Henderson

*Astragalus gilviflorus*Photo © Robert K. Moseley  
*Astragalus gilviflorus* in habitat*Astragalus gilviflorus*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1961. Vascular plants of the Pacific Northwest. Part 3. University of Washington Press, Seattle. 614 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.

***Astragalus gilviflorus* E. Sheldon**  
**Plains milkvetch; Plains orophaca**  
**Fabaceae** (Pea; Legume family)

**Synonyms:** *Astragalus triphyllus* Pursh; *Orophaca triphylla* (Eaton & Wright) Britton

**General Description:** A stemless, tufted perennial forming small mats up to about 15 cm in diameter, and foliage with silvery, lustrous, straight, appressed hairs. The compound leaves are comprised of 3, sessile, palmately arranged leaflets 5-30 mm long, and having a reverse lance- or reverse egg-shape narrowing at the point of attachment. The short inflorescence has 1-3 (mostly 2) erect, yellowish to whitish flowers tucked in the leaf axils. Banner petals are 16-28 mm long. The calyx is narrowly cylindrical and 9-20 mm long. Fruit pods are erect and commonly concealed among the persistent sepals and stipules. They are

ovoid-elliptic in shape, hairy, one-celled, 6-10 mm long by 2.5-5 mm broad, and have thin fleshy valves that become leathery in age.

**Field Identification Tips:** The stemless, densely tufted habit, palmately trifoliate leaves of steely gray-blue color, and relatively large yellowish to whitish flowers tucked within or barely exceeding the leaves readily identifies plains milkvetch in the field.

**Phenology:** Flowering in early May to about early June.

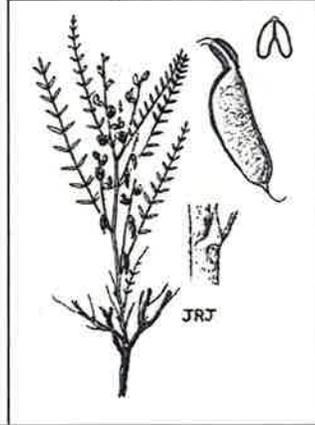
**Similar Species:** Although a number of other low-growing *Astragalus* species occur in east-central Idaho, none should be confused with plains milkvetch. *Astragalus calycosus* (Torrey's milkvetch) may look superficially similar when flowers or fruits are not present, but it does not have palmately 3-foliate leaflets.

**Habitat:** Open, more or less sparsely vegetated, rocky, gentle to steeper limestone slopes with little soil development. It occurs on all aspects. Associated species include *Petrophytum caespitosum*, *Artemisia nova*, *A. frigida*, *Cercocarpus ledifolius*, *Tanacetum nuttallii*, *Penstemon* spp., *Hymenopappus filifolius* var. *idahoensis*, and *Arenaria kingii*.

**Idaho Distribution:** West slope of the Beaverhead Range in and near the Lemhi River and Birch Creek valleys in Lemhi and Clark counties. Plains milkvetch has also been collected from near Henrys Lake in Fremont County.



Photo © Robert K. Moseley  
*Astragalus oniciformis*



*Astragalus oniciformis*  
Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1961. Vascular plants of the Pacific Northwest. Part 3. University of Washington Press, Seattle. 614 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press



Photo © Robert K. Moseley  
*Astragalus oniciformis* in fruit

***Astragalus oniciformis* Barneby**

**Picabo milkvetch**

**Fabaceae** (Pea; Legume family)

**General Description:** A wiry, prostrate perennial herb with numerous stems emanating at ground level from a loosely branched caudex attached to a slender taproot. The foliage is covered with a short, white pubescence that gives plants a greenish-ashy appearance. Stems are 10-25 cm long, sparsely leafy, and have flowering stalks emanating from all but the lowest leaf axils. Leaves are compound, with 17-25, distant, elliptic to oval, small leaflets 1-7 mm long. The inflorescence is a loose raceme of 4-12 cream-yellow flowers. Banner petals are 5-7 mm long. The calyx is 3-4 mm long with whitish hairs. Fruit pods are small, 7-12 mm long, pendulous, short stipitate, light green, papery, and have a more or less elliptic profile.

**Field Identification Tips:** Picabo milkvetch is recognized by its wiry, prostrate, multi-stemmed habit, small leaflets, small cream-yellow flowers, and small, hanging, greenish fruit pods.

**Phenology:** Flowering begins during mid-May most years.

**Similar Species:** *Astragalus purshii* (Pursh's milkvetch) and *A. lentiginosus* (freckled milkvetch) can occur with Picabo milkvetch. Both are readily distinguished from Picabo milkvetch by their larger leaflets, flowers and fruits. *Astragalus atratus* var. *inseptus* (mourning milkvetch) is an Idaho endemic with a range partly overlapping that of Picabo milkvetch. It has small leaflets like Picabo milkvetch, but differs in having larger, whitish flowers and larger, purplish or mottled pods.

**Habitat:** Picabo milkvetch occurs in sandy sites; in basins, bowls, and flats within rolling basalt topography having deep, stable, well-drained, sandy or sandy-loam soils. It occurs almost exclusively within the *Artemisia tridentata* ssp. *wyomingensis*/*Stipa comata* habitat type. Other associated species include *Artemisia tridentata* ssp. *tridentata*, *A. tripartata*, *Chrysothamnus* spp., *Oryzopsis hymenoides*, *Poa secunda*, *Agropyron spicatum*, *Gymnosteris nudicaulis*, *Phacelia heterophylla*, *Phlox* spp., and *Chaenactis douglasii*. Populations are known from between approximately 3,700 and 5,200 feet elevation. Picabo milkvetch does not occupy unstable sand dune sites.

**Idaho Distribution:** Endemic to the north-central portion of the eastern Snake River Plain in Lincoln, Minidoka, and southern Blaine counties.



Photo © Robert K. Moseley

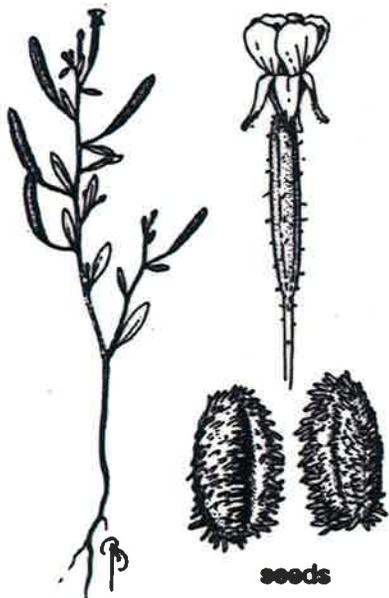
*Camissonia pterasperma**Camissonia pterasperma*

Illustration by Bobbi Angell.

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 of the Intermountain West, U.S.A.,  
 by A. Cronquist, N. H. Holmgren,  
 and P. K. Holmgren, Vol. 3A  
 Subclass Rosidae (except Fabales),  
 p. 187, copyright 1997, The New  
 York Botanical Garden.

***Camissonia pterasperma* (S. Wats.) Raven**  
**Wing-seeded evening-primrose**  
**Onagraceae** (Evening-primrose family)

**General Description:** A slender, simple or branched, diminutive annual herb up to about 15 cm tall. The herbage has few to many tiny spreading hairs and becomes glandular in the inflorescence. Stem leaves are entire, mostly lance-shaped, and up to about 1.5 cm long (occasionally longer) and 5 mm wide. Flowers are erect on short pedicels in the upper leaf axils. The petals are small, 1.5-3 mm long, white with a yellow base, aging to a pinkish color. Sepals are small and reflexed. The fruit capsule is more or less straight, cylindric, shortly stalked, 1-2 cm long, and slightly to more often widely spreading by maturity. Seeds have a pair of conspicuous, incurved marginal wings.

**Field Identification Tips:** The slender, diminutive habit, entire, narrow leaves, small white flowers with a yellow base, and shortly-stalked, straight fruit capsules are good field characteristics. The white flowers with a yellow base and seeds having a pair of conspicuous, thick, incurved marginal wings are diagnostic.

**Phenology:** Flowers from approximately mid-May to mid-June.

**Similar Species:** There are several other annual *Camissonia* species in east-central Idaho. They all differ in one or more readily viewed field characteristics, including, having toothed versus entire leaves; having mostly basal leaves versus leaves mostly along the stem; having sessile versus stalked fruit capsules; having bent/contorted versus straight fruit capsules; or having yellow versus white flowers. The elongated fruit capsule positioned below (inferior) the sepals distinguishes species of *Camissonia* from most other small annual forb species encountered in east-central Idaho.

**Habitat:** Dry, open slopes, ridges, and washes in the sagebrush and juniper zones. Most known Idaho populations occur on gravelly-silty soils, on southerly-facing limestone slopes. It is also known from volcanic-derived substrates in a few places. The vegetation is dominated by open *Juniperus osteosperma*, *Artemisia arbuscula*, or *Artemisia nova* communities. Other associated species in this open habitat include *Agropyron spicatum*, *Poa secunda*, *Oryzopsis hymenoides*, *Eriogonum* spp., *Phlox hoodii*, and *Mentzelia albicaulis*.

**Idaho Distribution:** Most Idaho populations of wing-seeded evening-primrose are known from the low, southern ends of the Lost River, Lemhi, and Beaverhead ranges in Butte and Clark counties. It has also been collected from near the South Fork Owyhee River in Owyhee County, in very southwestern Idaho.



Photo © Joe Duff  
*Carex occidentalis*

*Carex occidentalis*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1969. Vascular plants of the Pacific Northwest. Part 1. University of Washington Press, Seattle. 914 p. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.



*Carex occidentalis* Bailey

Western sedge

Cyperaceae (Sedge family)

**General Description:** A grass-like perennial forming loose bunches of sharply triangular stems up to about 80 cm tall. Leaves are flat, 1-3 mm wide, elongate, but shorter than the stems, and not all clustered at the very base of the plant. The inflorescence is a more or less slender, cylindric head comprised of 4-10 aggregated spikes more tightly clustered toward the top of the inflorescence than at the bottom. Spikes are small, few-flowered, and have male flowers above the female. The perigynia have 2 stigmas, are finely serrulate above the middle, 3-5 mm long, greenish-straw to coppery brown in color, and with sharp, narrow, green, shiny margins. Scales are brownish with a whitish margin, ovate-triangular, pointy-tipped, and largely conceal the perigynia.

**Field Identification Tips:** Western sedge occurs in relatively dry habitats. Field characteristics include its tufted habit, elongated, greenish-straw-colored inflorescence, heads having male flowers above the female, and shiny perigynia with narrow, often green margins. Positive identification requires use of a technical key and hand lens or microscope.

**Phenology:** July and August.

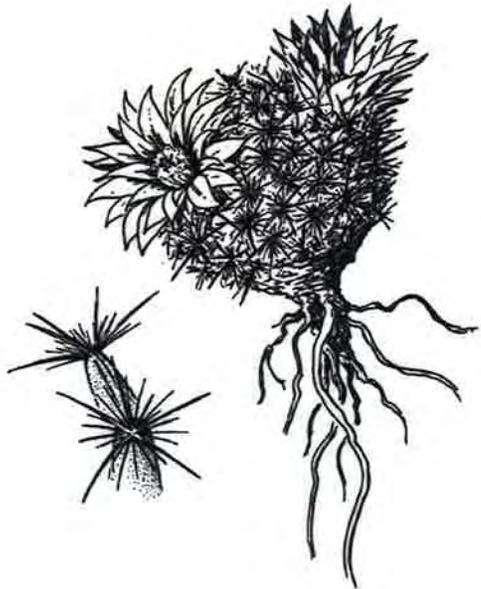
**Similar Species:** Many other sedge species resemble western sedge in general appearance. It is most likely to be confused with other tufted sedges that can occur in upland habitats, and have male flowers above the female in the inflorescences. *Carex hoodii* (Hood's sedge) has spikes that are more tightly clustered and more markedly bicolored. *Carex vallicola* (valley sedge) does not get over about 40 cm tall, and has pale scales usually shorter than the perigynia. *Carex tumulicola* (foothill sedge) usually has bracts subtending and surpassing the lower spikes of the inflorescence.

**Habitat:** Dry, open, or lightly wooded slopes, less often in meadows, generally at middle, but extending upward to subalpine and alpine areas. The Idaho collection was made in a lava field.

**Idaho Distribution:** Known from a historical collection about 10 miles southwest of Idaho Falls in Bonneville County.



Photo © Peter Lesica

*Coryphantha vivipara*

*Coryphantha vivipara*  
Hitchcock, C. L., A. Cronquist,  
M. Ownbey, and J. W.  
Thompson. 1961. Vascular  
plants of the Pacific Northwest.  
Part 3. University of  
Washington Press, Seattle. 614  
pp. Illustration by Jeanne  
Janish. Reprinted with  
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Washington Press.

***Coryphantha vivipara* (Nutt.) Britt. & Rose**  
**Cushion cactus; Spinystar**  
**Cactaceae** (Cactus family)

**Synonyms:** *Escobaria vivipara* (Nutt.) Buxbaum; *Escobaria vivipara* (Nutt.) Buxbaum var. *vivipara*; *Mammillaria vivipara* (Nutt.) Haw.

**General Description:** A low-growing cactus, 3-10 cm tall and about equally wide, with one to several stems that are more or less round to short-cylindric in outline and have a top-shaped base. Tubercles are spirally arranged, 5-15 mm long, and distinctly grooved on the upper side. Areoles (special cushions bearing the spines) have 3-5 main spines about 10 mm long, and 10-20 smaller, slender marginal spines. Flowers are showy, bright reddish-purple, and about 3-4 cm wide and long. Fruits are greenish, oblong, 1-2 cm long, and have brown seeds.

**Field Identification Tips:** Cushion cactus is more or less round in outline except for the top-shape base. The tubercles are not arranged on ribs, as the stem is ribless. The showy flowers make plants conspicuous for awhile, but then the plants dry and shrink downward into the substrate and are difficult to observe when dormant.

**Phenology:** Flowers May and June.

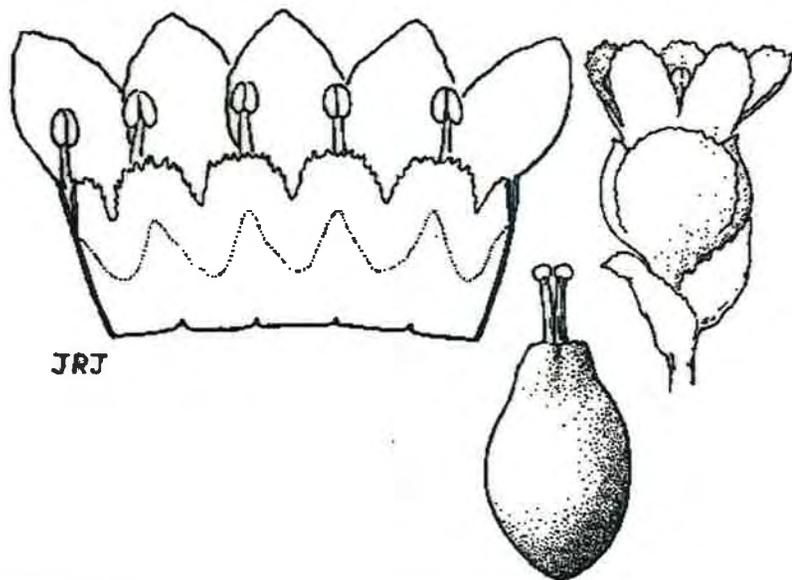
**Similar Species:** *Coryphantha missouriensis* (nipple cactus) is separated by its greenish-white or yellowish flowers, globular, reddish fruits, black seeds, and shorter tubercles about 6-9 mm long. Two other genera of cactus occur in Idaho. *Opuntia* species (prickly pear cactus) are readily distinguished by their jointed and flattened stems. Species of *Pediocactus* (hedgehog cactus) have longitudinally ribbed stems. Idaho material has whitish to pinkish flowers about 2 cm long.

**Habitat:** Dry valleys and plains. Open, gentle to steep, rocky slopes and flats with sagebrush or conifer species in Idaho.

**Idaho Distribution:** Lemhi County, and also reported for Owyhee County.



Photo © Florence Caplow, WANHP

*Cuscuta denticulata**Cuscuta denticulata*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1959. Vascular plants of the Pacific Northwest. Part 4. University of Washington Press, Seattle. 510 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.

***Cuscuta denticulata* Engelm.**  
**Desert dodder; Sepal-toothed dodder**  
**Cuscutaceae (Dodder family)**

**General Description:** A rootless, leafless, twining, non-green, parasitic herb with slender, pale yellow stems that grows on various desert shrubs. Flowers are white, sessile or subsessile, single and scattered, or congested into small clusters. The corolla is 5-merous, with lobes about 1.5 mm long, rounded at the apex and irregularly finely toothed. The non-fleshy calyx has deeply divided lobes that are more or less circular in outline. They have irregularly finely-toothed margins, and become shiny-translucent and finely lined when dry. The stamens are shorter than the corolla lobes and have anthers about equaling the filaments. Scales between the stamens are well developed and finely toothed. The styles are capitate. Capsules are narrowly pear-shaped, usually one-seeded, and have a crested thickening around the base of the style.

**Field Identification Tips:** The genus *Cuscuta* is readily recognized by its rootless, twining, non-green habit. Field identification to species is difficult due to the small size of the flowers. Features of the stigma, stamens and scales between the stamens are key to identifying species of *Cuscuta*.

**Phenology:** Flowers from July through August.

**Similar Species:** Dodders known to occur in eastern Idaho include *Cuscuta indecora* (bigseed alfalfa dodder), *C. californica* (chaparral dodder), *C. pentagona* (five-angled dodder), *C. approximata* (alfalfa dodder), and perhaps others. All resemble desert dodder at first glance, and most occur on a wide range of hosts.

**Habitat:** Occurs on various desert shrubs, especially *Artemisia* spp. and *Chrysothamnus* spp.

**Idaho Distribution:** Known from Hells Canyon in Idaho County and the Birch Creek Valley in Clark County.



Photo © Peter Lesica

*Epipactis gigantea*Photo © Robert K. Moseley  
*Epipactis gigantea* in fruit***Epipactis gigantea* Douglas ex Hook.****Giant helleborine****Orchidaceae** (Orchid family)

**General Description:** A leafy, glabrous, perennial herb up to 1.5 m tall, with 1 to several stems from a creeping rhizome. Leaves are numerous, alternate, sessile, and 5-20 cm long. The lower are oval, but the leaves become more lance-shaped further up the stem. Flowers are rather showy and borne singly in a long, narrow, open, mostly one-sided, leafy-bracted inflorescence at the top of the stem. Sepals and upper petals are 1.3-1.7 cm long, greenish-yellow or brownish in color with purple veins. The lip petal is 1.5-2 cm long, greenish with purple veins, and divided into 3 unequal segments. The fruit is an elliptic, drooping capsule 2-2.5 cm long.

**Field Identification Tips:** A relatively large stature, numerous long clasping leaves, large brownish flowers, and drooping fruits combine to make giant helleborine a distinctive species.

**Phenology:** Flowers June to August.

**Similar Species:** Vegetative plants may be confused with some members of the orchid genus *Platanthera*, or more likely with *Smilacina stellata*, in the lily family, species that can co-occur with giant helleborine. The prominently clasping leaf bases and taller habit of giant helleborine distinguishes it from *Smilacina*, and its generally more numerous and larger leaves and taller habit from *Platanthera*.

**Habitat:** In general, giant helleborine occurs in moist areas along streambanks, lake margins, seeps and springs. In Idaho it is associated with thermal waters at higher elevations, or cold springs at lower elevations such as along the Snake River.

**Idaho Distribution:** Widespread in Idaho: Bonner, Boundary, and Nez Perce counties in northern Idaho; Idaho, Adams, Valley, Boise, Custer, and Lemhi counties in central Idaho; Elmore, Camas, Gooding, Jerome, Twin Falls, and Owyhee counties in southern Idaho; and Clark and Madison counties in the eastern part of the state.



Photo © Chris Murphy

*Eriogonum capistratum* var. *welshii*

Photo © Chris Murphy

*Eriogonum capistratum* var. *welshii****Eriogonum capistratum* Rev. var. *welshii* Rev.****Welsh's buckwheat****Polygonaceae** (Buckwheat family)

**General Description:** A low, mat-forming, perennial with blue-green colored foliage. Leaves are covered with dense, soft, white, woolly hairs. They are non-glandular, elliptic to spoon-like in shape, and 5-12 mm long on petioles 4-9 mm long. Flowering stems are leafless, 2-10 cm long, and covered with dense, sometimes tangled, long, woolly hairs. The tight, ball-like inflorescence terminating the flowering stem is subtended by a bell-shaped, 5-7-toothed involucre covered with sparse to dense soft, woolly hairs. Flowers are golden-yellow, without hairs, 2-3 mm long, have a greenish to reddish-brown mid-rib, and become rosy-yellow upon maturity.

**Field Identification Tips:** Welsh's buckwheat is distinguished by its low, matted habit, bluish-green leaves covered by white tomentum, and head-like inflorescence of yellow to golden flowers on densely hairy flowering stems.

**Phenology:** Flowering peaks in late June to early July most years.

**Similar Species:** *Eriogonum mancum* (imperfect buckwheat) can be readily distinguished by its cream to pinkish colored tepals when flowers are present. Without flowers it is distinguished by leaves having grayish woolly hairs, versus the white woolly tomentum of Welsh's buckwheat. However, this feature is not always easy to distinguish in the field. Care must be taken to distinguish *E. verrucosum* (graceful buckwheat) on volcanic substrates near the northern edge of Welsh's buckwheat range. *Eriogonum verrucosum* is identified by glabrous to only thinly hairy flowering stems and pustulose (with tiny blisters) flowers. In some areas, individuals of Welsh's buckwheat seem to have intermediate characteristics and intergrade with related species known from east-central Idaho. *Eriogonum capistratum* var. *capistratum* (hidden buckwheat) has glabrous or glandular flowering stems, but they are not covered with white, woolly hairs.

**Habitat:** Primarily on dry, windswept, sparsely vegetated sites characterized by shallow, clay-rich soils. It is found on either calcareous (mainly limestone) or Challis Volcanics substrates, generally on convex-shaped, gently sloping (but sometimes flat or steeper) sites. Occurrences are known from between approximately 6,000 to 7,800 feet elevation. Welsh's buckwheat ranges from valley bottom alluvial fans and benches to foothill ridges and bluffs of the surrounding mountains.

**Idaho Distribution:** Endemic to the valleys and foothills of the upper Big Lost, Little Lost, and Pahsimeroi rivers, and immediate vicinity, in Custer and adjacent portions of Lemhi and Butte counties in east-central Idaho.



Photo © Douglass Henderson

*Ipomopsis polycladon**Ipomopsis polycladon*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1959. Vascular plants of the Pacific Northwest. Part 4. University of Washington Press, Seattle. 510 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.

***Ipomopsis polycladon* (Torr.) V. Grant**  
**Spreading ipomopsis; Manybranched ipomopsis**  
**Polemoniaceae (Phlox family)**

**Synonym:** *Gilia polycladon* Torr. (Spreading gilia)

**General Description:** A taprooted annual up to about 15 cm tall with several slender, rigid, ascending-spreading (not prostrate) branches from the base. The herbage is glandular and hairy, with the stems more glandular, the leaves more hairy. Leaves are clustered at the base and again just below the flower heads, otherwise the stems are leafless or nearly so. Basal leaves are 1-3 cm long and have a few lobes or teeth. Those subtending the flower heads are similar or smaller and less cleft. The inflorescence is a dense cluster of small, white flowers terminating the branches. Corollas are 3-6 mm long and have small spreading lobes, while the calyx is 2-6 mm long and pointy-tipped.

**Field Identification Tips:** Spreading ipomopsis is recognized by its slender, stiff, divaricate, subnaked, ascending-spreading stems branching from the base, and terminal, leafy-bracted flower heads. Additional characteristics include the lobed or toothed basal cluster of leaves, the glandular and hairy herbage, and dense head of small white flowers.

**Phenology:** Flowers April through June.

**Similar Species:** A few other desert annuals such as *Gilia leptomeria*, *Phacelia glandulifera*, or *Navarretia* spp. can look superficially similar.

**Habitat:** Dry, open areas in desert shrub communities. In southwestern Idaho, spreading ipomopsis occurs in *Artemisia tridentata* ssp. *wyomingensis* and desert shrub communities. It occurs on silt, sand, and clay soils, or on cindery or gravelly exposures that tend to be flat to gently sloping. Associated species include *A. tridentata* ssp. *wyomingensis*, *Atriplex confertifolia*, *Chrysothamnus* spp., *Tetradymia glabrata*, *Grayia spinosa*, *Oryzopsis hymenoides*, *Bromus tectorum*, *Stanleya pinnata*, *Mentzelia albicaulis*, and *Phlox* spp. In eastern Idaho, spreading ipomopsis is usually associated with rocky *Artemisia nova* slopes on volcanic substrates. Associated species at eastern Idaho sites include *A. nova*, *Elymus ambiguus*, and *Agropyron spicatum*.

**Idaho Distribution:** Populations are known from Ada, Elmore, and Owyhee counties in southwestern Idaho, and Butte and Power counties in the eastern part of the state.



Photo © Robert K. Moseley  
*Lomatogonium rotatum*



Photo © Robert K. Moseley

*Lomatogonium rotatum*

***Lomatogonium rotatum* (L.) Fries ex Fern.**

**Marsh felwort**

**Gentianaceae** (Gentian family)

**General Description:** A glabrous annual or biennial herb with branched or unbranched stems 10-25 cm tall. Leaves are opposite, entire, and scattered on the stem; the lower ones spoon-shaped, the others more lance-shaped, and up to about 3 cm long. Flowers are white to bluish and borne singly at the top of branches or the upper leaf axils. The corolla is flat in outline, with 5 ovate, sharp pointed petals between 5-15 mm long, each one having a basal pair of distinctive, scale-like, fringed appendages. Sepals are conspicuous, linear, and usually exceed the corolla. The fruit is an oblong capsule with numerous small seeds.

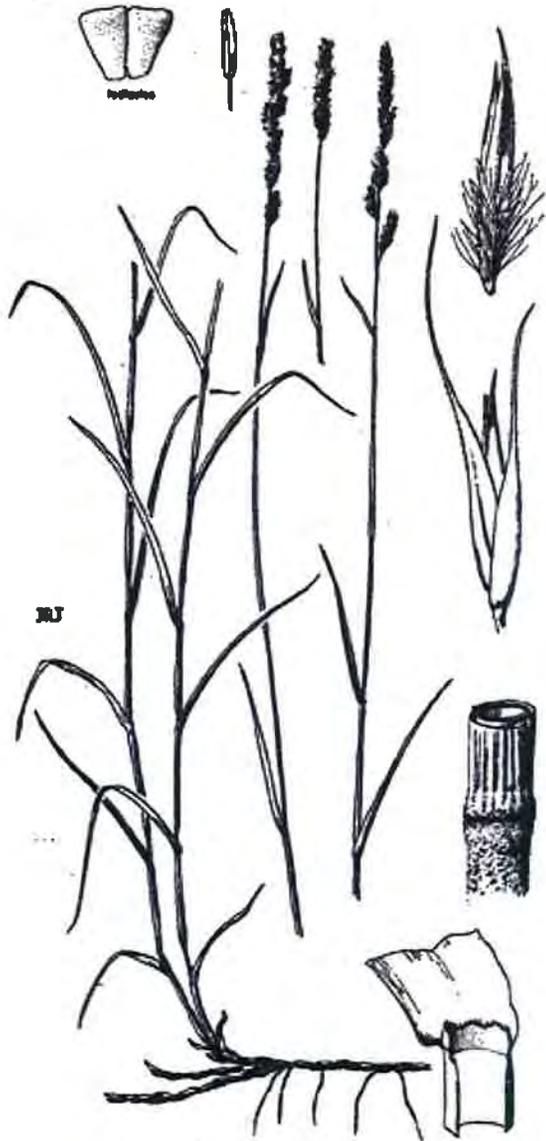
**Field Identification Tips:** Marsh felwort can be recognized by its hairless habit, scattered pairs of opposite leaves, flat, white to bluish flowers borne on slender pedicels in the upper leaf axils, and leaf-like sepals usually longer than the petals. The restrictive habitat for this species in Idaho is another tip.

**Phenology:** Flowers August and September.

**Similar Species:** Marsh felwort is sufficiently distinct that it should not be confused with other members of the gentian family found in Idaho.

**Habitat:** In Idaho, it occurs in spring-fed, alkaline, sometimes hummocky, meadows, fens, and streamside areas in the montane zone. Associated species include *Potentilla fruticulosa*, *Salix* spp., *Juncus balticus*, *Carex simulata*, *C. aquatilis*, *C. nebrascensis*, and *Primula alcalina*.

**Idaho Distribution:** Upper reaches of intermountain valley bottoms and tributaries in Custer and Lemhi counties in the east-central part of the state.



***Muhlenbergia racemosa* (Michx.) Britton, Sterns, & Puggenb.**

**Green muhly**

**Poaceae** (Grass family)

**General Description:** A stiffly erect perennial grass, 25-100 cm tall, from long, creeping, scaly rhizomes. The flat leaf blades are more or less evenly distributed along the culm and 5-15 cm long by 2-7 mm broad. Internodes are glabrous. The membranous ligules are up to about 1.5 mm long. The inflorescence is a narrow, spike-like panicle 4-17 cm long with densely clustered, light green, 1-flowered spikelets. The subequal glumes are 3-7 mm long and taper into a short awn. Lemmas are 2-4 mm long, pubescent along the lower half, and either awnless or with a short awn tip. Anthers are small, up to 0.8 mm long.

**Field Identification Tips:** The relatively tall, rhizomatous habit, spike-like inflorescence, 1-flowered, light green-colored spikelets, and short-awned glumes are useful field characteristics. Positive identification requires using a technical key and measuring technical morphological characteristics.

**Phenology:** Flowers July to September.

**Similar Species:** Several perennial *Muhlenbergia* species with spike-like inflorescences that occur in moist habitats could be confused with *M. racemosa*. *Muhlenbergia glomerata* (marsh muhly) closely resembles *M. racemosa*, and the two have been merged in some treatments. *Muhlenbergia glomerata* differs in its finely puberulent internodes, shorter ligules (0.2-0.6 mm), and slightly longer anthers (about 1 mm long). In addition, *M. glomerata* typically occupies wetter habitats such as streambanks, wet meadows, and lakeshores. *Muhlenbergia andina* (foxtail muhly) differs in a number of technical characters. The easiest one to see in the field is the dense, silky callus hairs about as long as the lemma. *Muhlenbergia mexicana* (Mexican muhly) has puberulent internodes, shorter glumes (up to about 3.5 mm long), and slightly spreading branches in the inflorescence.

**Habitat:** Drying meadows, rocky slopes, along irrigation ditches, and often in cultivated and other disturbed sites.

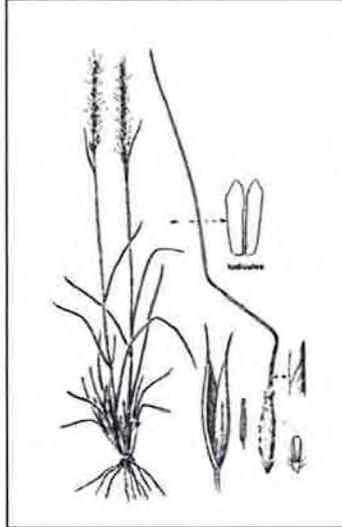
**Idaho Distribution:** The disposition of several Idaho populations is unresolved. Reports of this species are known from Bonner and Boundary counties in northern Idaho, and Bannock, Caribou, Fremont, and Teton counties in the eastern part of the state.

***Muhlenbergia racemosa***

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1969. Vascular plants of the Pacific Northwest. Part I. University of Washington Press, Seattle. 914 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.



*Nassella viridula*  
Wisconsin State Herbarium Photo  
Photographer: Emmet J. Judziewicz



*Nassella viridula*  
Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1969. Vascular plants of the Pacific Northwest. Part 1. University of Washington Press, Seattle. 914 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press



*Nassella viridula*

Wisconsin State Herbarium Photo  
Photographer: Emmet J. Judziewicz

***Nassella viridula* (Trin.) Barkworth**  
**Green needlegrass**  
**Poaceae** (Grass family)

**Synonym:** *Stipa viridula* Trin.

**General Description:** A tufted perennial bunchgrass 50-100 cm tall, with mainly basal leaves having curled margins, and often thread-like towards the tip. The upper leaves are sometimes flat, with blades 3-6 mm broad and usually between 10-30 cm long. The ligule is a smooth or hairy membrane up to about 3 mm long. The inflorescence is a narrow greenish panicle with erect branches, and 10-25 cm long. Spikelets are one-flowered, with membranous glumes tapering to a sharp tip, 8-13 mm long, and with 3 prominent green veins. Lemmas are cylindrical, brown, leathery, evenly soft hairy, 5-6.5 mm long, with a short, blunt white-bearded base (callus), and twice bent awn 25-35 mm long. The palea is less than half as long as the lemma and hairless.

**Field Identification Tips:** Green needlegrass is recognized by its tall, tufted habit, relatively narrow and curled leaves, narrow panicle, hairy, leathery lemma with a twice bent awn, and tiny, hairless palea.

**Phenology:** Flowers June and July

**Similar Species:** Green needlegrass is most likely to be confused with some species of *Achnatherum* (*Stipa* in part), especially those in the *A. occidentale* and *A. nelsonii* complexes, *A. pinetorum*, and *A. lettermanii*. These species are distinguished from green needlegrass on technical differences in the awn, callus, and margins of the lemma, the size of the palea, and other small features not always easy to determine in the field. Most tend to be shorter and have thinner leaves than green needlegrass.

**Habitat:** Grasslands and sagebrush slopes and adapted to a wide range of soil textures. One Idaho population is on dry, rocky/gravelly volcanic soil with *Artemisia tridentata*, *Elymus cinereus*, *Agropyron spicatum*, and *Poa secunda*.

**Idaho Distribution:** Idaho collections are from the foothills of the southern Beaverhead Mountains in Clark County, and from near Soda Springs in Caribou County.



U.S. Fish and Wildlife Service Photo

*Oenothera psammophila*

Photo © Robert K. Moseley

*Oenothera psammophila*

***Oenothera psammophila* Nels. & Macbr.**  
**St. Anthony evening-primrose; St. Anthony sand-lily**  
**Onagraceae** (Evening-primrose family)

**Synonyms:** *Oenothera caespitosa* Nutt. var. *psammophila* (Nels. & Macbr.) Munz

**General Description:** A glabrous, herbaceous perennial from a thick taproot 10-30 cm tall. Stems can become woody and buried in the drifting sand and give rise to numerous branches that then emerge from the sand. The multiple stems and branches can give plants a clumped or bunched appearance spreading up to about 60 cm wide. Leaves are usually 7-15 cm long and 1-3 cm wide, reverse lance-shaped, and entire or with wavy teeth along the margins. Flowers are borne singly in the leaf axils. Petals are bi-lobed at the summit, 2.5-4.5 cm long, and white, but turn pink or reddish-purple with age. The sepals are reflexed and 2-3 cm long, while the floral tube is 4-6 cm long. The sessile, ascending or erect fruit capsules are cylindrical in outline, strongly angled, 3-5 cm long, and become rather woody at maturity, with the open capsules sometimes remaining attached to the stem throughout the winter.

**Field Identification Tips:** St. Anthony evening-primrose is recognized by its clumped, hairless habit, large white flowers that fade pinkish to reddish, and sessile capsules twisted and curved near the top that lack distinctive rows of warty projections. The distinctive sandy, inter-dunal habitat is also a good tip.

**Phenology:** Flowers June and July.

**Similar Species:** St. Anthony evening-primrose is most likely to be confused with one of the varieties of *Oenothera caespitosa* (evening-primrose) that occur in the St. Anthony area. *Oenothera caespitosa* var. *marginata* has straight capsules on short pedicels with distinctive wart-like projections in ridges or rows. In addition, plants are usually obviously hairy, with more deeply toothed leaves, and floral tubes usually over 7 cm long. *Oenothera caespitosa* var. *caespitosa* is often (but not always) shortly pubescent to one degree or another, and has leaves all in a basal cluster. It also has fruit capsules that are not twisted and only slightly curved at the top. *Oenothera pallida* (pale evening-primrose) is a rhizomatous perennial that sometimes co-occurs with St. Anthony evening-primrose. It generally has a more erect habit, poorly developed or no basal leaves, usually smaller flowers, and more or less spreading, sometimes rather contorted fruit capsules.

**Habitat:** The trailing margins of migrating sand dunes in inter-dunal areas having sand-filled cracks over basalt outcrops and developing primary plant communities. St. Anthony evening-primrose is apparently limited to areas where the sand is less than approximately 50 cm deep. Associated species include *Elymus flavescens*, *Oryzopsis hymenoides*, *Psoralea lanceolata*, *Gilia congesta*, *Oenothera pallida*, and *Lygodesmia juncea*. Plants do not occur on the bodies of sand dunes, nor in surrounding sagebrush-steppe habitats.

**Idaho Distribution:** The St. Anthony Sand Dune complex in southwestern Fremont County.



Photo © Steve Popovich

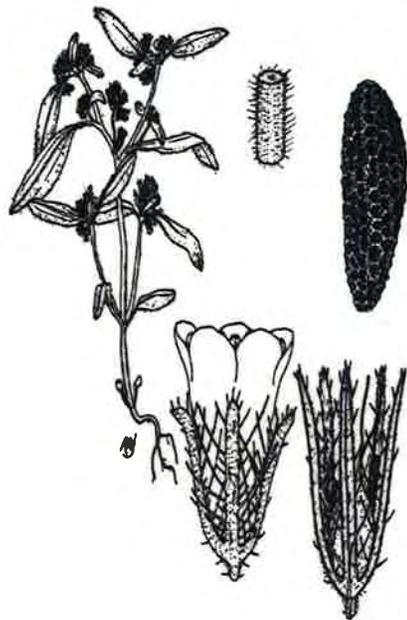
*Phacelia inconspicua****Phacelia inconspicua***

Illustration by Robin A. Jess. Reprinted with permission from Intermountain Flora: Vascular plants of the Intermountain West, U.S.A., by A. Cronquist, A. H. Holmgren, N. H. Holmgren, J. L. Reveal, and P. K. Holmgren; Vol. 4, p. 183, copyright 1984, The New York Botanical Garden

**Field Identification Tips:** Obscure phacelia is recognized by its small, branching, annual habit, spreading, non-glandular pubescence, entire (no teeth or lobes) leaves, and bractless, coiled (unfurling like the tail of a scorpion) inflorescence of small pale bluish or whitish flowers.

**Phenology:** Late May through June, with prime flowering conditions during early June most years.

***Phacelia inconspicua* E. L. Greene**  
**Obscure phacelia; Obscure scorpion plant**  
**Hydrophyllaceae (Waterleaf family)**

**General Description:** An upright, branching, annual herb with clearly spreading hairs, but not glandular, and up to 20 cm tall. There are two types of hairs on the stems and in the inflorescence: numerous fine, short, loosely curled hairs; and a fewer number of longer, stiffer spreading hairs. The leaves are entire, more or less elliptic, 1-4 cm long and about 1 cm broad, green above and somewhat paler on the underside. Lower leaves have a short, winged petiole, while the upper leaves are sessile. Inflorescences are terminal at the stem tips and consist of small coils of small, pale bluish to whitish, bractless flowers. The five petals are fused about half their length into a bell-shaped tube 3-4 mm long. Calyx segments are linear or nearly so. Stamens are equal to or slightly exerted from the corolla. The fruit is an egg-shaped capsule about 3 mm long and has 2 seeds.

**Similar Species:** In Idaho, obscure phacelia is most likely to be confused with *Phacelia incana* (hoary phacelia) and *P. minutissima* (small phacelia). These two small, annual congeners are similar to obscure phacelia in growth form and leaf shape, but both differ in having glandular hairs and more than four seeds per fruit. *Phacelia glandulifera* (sticky phacelia) can co-occur with obscure phacelia, but is readily distinguished by its deeply lobed leaves and glandular herbage. Obscure phacelia usually occurs mixed with other vernal annuals. As these annuals mature and dry it can be difficult to see obscure phacelia and to distinguish it from annual *Cryptantha* species (e.g., *C. torreyana*). The pubescence of obscure phacelia is much softer compared to that of associated *Cryptantha* species, however.

**Habitat:** In general, sites supporting obscure phacelia are fairly steep, north- to east-facing, lower- to mid-slopes lying below the rimrock of butte tops or foothill ridgetops. Snowdrifts form on these concave lee-slopes and persist late into the spring. Plants are also occasionally observed on toe-slopes immediately above ephemerally moist drainages, but never on rimrock, ridgetops, or adjacent flats. Obscure phacelia typically grows in small gaps or clearings within shrubby vegetation, on scarified or loose loamy soil lacking significant perennial vegetation and surface litter. It is often associated with game trails, old cattle trails, and gopher diggings. Microsites most often occur within *Prunus virginiana* dominated communities having *Elymus cinereus*, *Symphoricarpos oreophilus*, and *Bromus tectorum* in the understory. It is also known from *Artemisia tridentata* ssp. *vaseyana*/*Agropyron spicatum*, and the edges of *Populus tremuloides*/*Symphoricarpos oreophilus* communities. Known Idaho populations occur between about 5,300 and 6,200 feet elevation. All Idaho populations occur on volcanic substrates, but in Nevada populations are found on limestone rock.

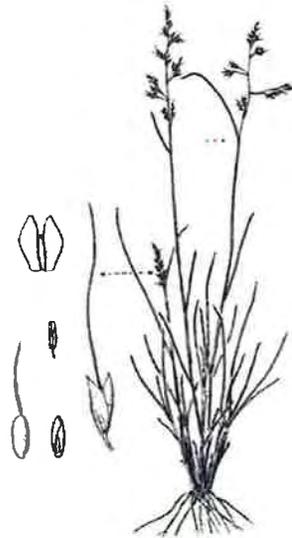
**Idaho Distribution:** Known Idaho populations lie in a triangular area stretching from the Pioneer Mountain foothills north of Craters of the Moon National Monument, southeast for approximately 40 miles to Split Top Butte, and 30 miles east to Big Southern Butte. All populations are in western Butte and adjacent Blaine counties.



*Piptatherum micranthum*  
Photo © Robert K. Moseley

*Piptatherum micranthum*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1969. Vascular plants of the Pacific Northwest. Part 1. University of Washington Press, Seattle. 914 pp. Illustration by Jeanne Janish. Reprinted with permission of the University of Washington Press.



*Piptatherum micranthum* (Trin. & Rupr.) Barkworth

Small-flowered ricegrass

Poaceae (Grass family)

**Synonym:** *Oryzopsis micrantha* (Trin. & Rupr.) Thurb.

**General Description:** A strongly tufted perennial grass 30-70 cm tall. Leaf blades are flat or slightly inrolled, 1-2 mm wide, while sheaths are open and smooth to slightly pubescent with fine, short hairs. Ligules are small, up to about 1 mm long and finely hairy along the edges. The inflorescence is a narrow panicle 7-15 cm long having short, ascending or slightly spreading branches. Glumes are equal, papery, transparent, sharply pointed, and about 3-4 mm long. Lemmas are hairless or occasionally have fine hairs and have a straight, stiff awn 4-8 mm long. They are also shiny and become hard and brownish in color. The callus is also hairless. Anthers are about 1 mm long.

**Field Identification Tips:** Small-flowered ricegrass is recognized by its tufted habit, thin leaves, narrow panicle with ascending or slightly spreading branches, glabrous callus, and lemmas becoming shiny, brownish, and hardened as they mature and having a straight, relatively long awn.

**Phenology:** Flowers June to early August.

**Similar Species:** Small-flowered ricegrass could be confused with little ricegrass, *Piptatherum exiguum* (*Oryzopsis exigua*). This species differs in its spike-like, appressed inflorescence and obviously bent awn of the lemma. Some species of *Achnatherum* (*Stipa* in part) can also look similar, but differ in having lemmas with longer (usually >15 mm), often bent, and sometimes pubescent awns, and a hairy callus.

**Habitat:** Dry, open, often sandy soil or rocky ridge areas from the sagebrush foothills to open forests at middle elevations. The known Idaho population occurs in cracks and on ledges in a limestone cliff alcove. It has no associates at this site.

**Idaho Distribution:** Known from the Birch Creek Valley south of Blue Dome in Clark County.



*Primula alcalina*  
Photo © Douglass Henderson

**Phenology:** Flowers in May and early June. Fruits develop through June, July, and August. The basal rosettes, with their distinctive wavy leaves remain green at least until the end of August. The leaves and flowering stem enlarge over the growing season, and by the time the capsules are ripe, may be several times their length compared to when first flowering.



Photo © Robert K. Moseley

*Primula alcalina* habitat

***Primula alcalina* A. Cholewa & D. Henderson**  
**Alkali primrose**  
**Primulaceae** (Primrose family)

**General Description:** A perennial herb from a flat basal rosette of light green, crinkly leaves, each 1-4 cm long. Young leaves have a white mealy coating that disappears as the leaves age. The leaf blades are elliptic and gradually narrow at the base to a winged petiole. Flowering stems are leafless and range between 5-30 cm tall. The inflorescence is a tight cluster of 3-10 erect flowers terminating the leafless stem. Flowers are white with a yellow center; the petals fused into a tube for their lower half, then flaring into 5 lobes, each about 1 cm long and clearly notched at the apex. The calyx is bell-shaped, with a somewhat white mealy coating. The involucre bracts at the base of the inflorescence also have a somewhat white mealy coating.

**Field Identification Tips:** Alkali primrose is distinguished by its tight rosette of crinkly leaves, and solitary, leafless flower stalk usually around 15 cm tall terminated by a tight umbel of white flowers. The white mealy bloom covering young leaves is absent from older, mature leaves.

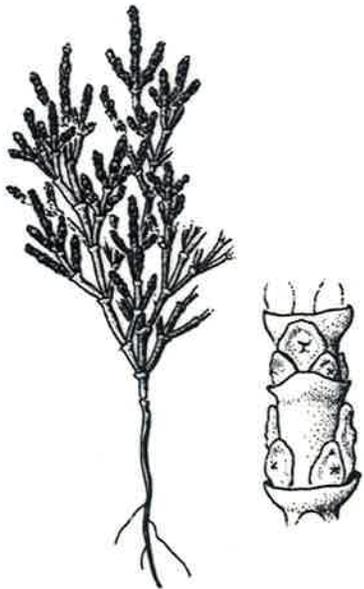
**Similar Species:** *Primula incana* (Jones' primrose) is a widespread species rare in Idaho. It occurs in wetland habitats, but differs from alkali primrose in having lavender-colored flowers and mature leaves covered with a white, mealy powder. There are also technical differences in the flowers to distinguish the occasional white (albino) Jones' primrose plant that may be found. Other *Primula* species known for Idaho do not occur in wet, alkaline meadow habitats. The basal rosettes of alkali primrose and another member of the primrose family, *Dodecatheon pulchellum* (few-flowered shooting star), are similar in size and shape. However, the *Dodecatheon* leaves are not white-mealy at any stage, nor do they have crenulate margins.

**Habitat:** Alkali primrose occurs in wet, spring-fed, alkaline, intermontane valley meadow systems. The alluvial soils are fine-textured, light-colored, and derived from predominantly calcareous outwash. Plants occur in the lowest topographic position in the meadows, where the subirrigated soil is saturated throughout the growing season. Plants are found on low, relatively level benches immediately adjacent to creeks and spring heads, as well as on low benches with hummocky microtopography, where plants are restricted to the tops and sides of the hummocks. Alkali primrose is not known from creeks having large seasonal or annual flows, or channel scouring from floods. Graminoids dominate the wet meadow habitats supporting alkali primrose, including *Eleocharis pauciflora*, *Carex scirpoidea*, *C. simulata*, *Kobresia simpliciuscula*, and *Juncus balticus*. Associated forbs are diverse, but have relatively low cover, and include *Dodecatheon pulchellum*, *Triglochin maritimum*, and *Thalictrum alpinum*. Hummocks are sometimes shared with shrubs such as *Betula glandulosa*, *Potentilla fruticosa*, and several *Salix* species.

**Idaho Distribution:** Known from a series of wet, spring-fed, alkaline meadows in the large intermontane valleys of east-central Idaho, in Lemhi, Butte, and Custer counties.



Photo © Robert K. Moseley

*Salicornia rubra**Salicornia rubra*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1964. Vascular plants of the Pacific Northwest. Part 2. University of Washington Press, Seattle. 597 pp. Illustration by Jeanne Janish. Reprinted by permission of the University of Washington Press.

*Salicornia rubra* A. Nels.

Red glasswort; Red saltwort

Chenopodiaceae (Goosefoot family)

**General Description:** An erect to ascending, succulent, more or less reddish (at least by maturity) annual herb, freely branching from the base, and 5-25 cm tall. Stems are oppositely branched, fleshy, jointed at the nodes, and often brittle and breaking with a crackling noise when stepped on. The small, scale-like leaves are mostly 1-2 mm long. Flowers are embedded in the fleshy, terminal, usually numerous spikes. Individual flowers are inconspicuous and arranged in small groups above each bract; the central flower of each cluster exceeding the others. The calyx completely encloses the flower except for a small slit-like opening through which the stamens and style barely protrude.

**Field Identification Tips:** Red glasswort can be recognized by its fleshy, smooth, usually reddish habit, and oppositely branched, jointed stems, minute, scale-like leaves, and numerous terminal spikes of inconspicuous flowers.

**Phenology:** Flowers July through September.

**Similar Species:** The jointed stems and scale-like leaves readily separates red glasswort from all other chenopods in our flora except for *Allenrolfea occidentalis* (iodine bush), a perennial that can be distinguished by its alternate branches and woody base. *Suaeda* species can look superficially similar, but they all have alternate, linear leaves and flowers in the axils of small leaf-like bracts.

**Habitat:** Moist, saline or alkaline soil of flats, shores, seepage areas, and ditches. In Idaho, populations of Red glasswort are usually associated with low cover of other goosefoot family species.

**Idaho Distribution:** Southeastern Idaho, in Bannock, Bear Lake, Bingham, Caribou, Franklin, and Oneida counties.



*Salix candida*  
Photo © Robert K. Moseley

*Salix candida*

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson. 1964. Vascular plants of the Pacific Northwest. Part 2. University of Washington Press, Seattle. 597 pp. Illustration by Jeanne Janish. Reprinted by permission of the University of Washington Press.



*Salix candida* Fluegge ex Willd.

**Hoary Willow**

**Salicaceae** (Willow family)

**General Description:** A freely-branched, low- to medium-sized shrub, 0.2-1.5 m tall. Twigs of the season are thinly to moderately tomentose on early season growth, becoming very dense on late season growth. Some of the pubescence usually persists into the second year. Leaves are mostly oblanceolate to narrowly oblong, the larger ones about 5-8 cm long and 0.7-1.5 cm wide, and with entire and inrolled margins. The lower leaf surfaces are covered with a dense, white, felt-like tomentum comprised of fine, tangled hairs; the upper surface glabrous or only thinly pubescent. The catkins are nearly sessile, the staminate ones about 1-2 cm long, and the pistillate ones mostly 1-3 cm long. The ovaries and capsules are pubescent and borne on short stipes. The persistent floral bracts are pale to dark brown.

**Field Identification Tips:** Readily distinguished by its relatively short stature and dense, white, felt-like tomentum on the lower leaf surfaces and twigs.

**Phenology:** Flowers in May-June. Its distinguishing vegetative characters allow this species to be identified throughout the summer.

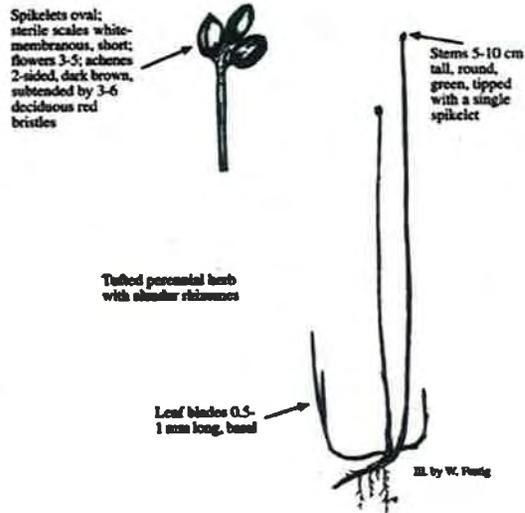
**Similar Species:** *Salix brachycarpa* which is similar in stature, floral morphology, and habitat can resemble *S. candida*, especially early in the season. However, *S. candida* has notably longer and narrower leaves that are more densely woolly-white beneath and have revolute margins. *Salix wolfii* has shorter leaves with silvery, appressed hairs on both top and bottom surfaces.

**Habitat:** Bogs, fens, marshes, pond edges, and seepage areas.

**Idaho Distribution:** Boundary and Bonner counties in the Panhandle region, and Butte, Custer, Lemhi, Fremont, Teton, and Caribou counties in the east-central and eastern parts of the state.



*Scirpus rollandii*  
Photo © Robert K. Moseley



*Scirpus rollandii*  
Illustration by Walt Fertig. Copyrighted illustration used with permission.

***Scirpus rollandii* Fern.**

**Rolland's bulrush; Dwarf bulrush; Small clubrush**  
**Cyperaceae** (Sedge family)

**Synonyms:** *Scirpus pumilus* Vahl.; *Scirpus pumilus* Vahl. ssp. *rollandii* (Fern.) Raymond; *Trichophorum rollandii* (Fern.) Hultn.; *Trichophorum pumilum* (Vahl.) Schinz & Thellung

**General Description:** A glabrous, grass-like perennial with loosely tufted, slender stems 5-12 cm tall and arising from slender rhizomes clothed in the remains of dead culms and persistent leaf bases. The leaves have slender blades 5-15 mm long and up to 1 mm broad above, but consist only of shorter sheaths near the base. The inflorescence is a small, solitary spikelet of 3-6 flowers borne on the stem tip and subtended by a brown, blunt-tipped bract. Each flower consists of a brown scale with thin, whitish margins subtending 3 stamens and an ovary with 3 stigmas. The scales fall off as the ovaries mature into smooth, blackish achenes (fruits) 1-2 mm long.

**Field Identification Tips:** Rolland's bulrush can be recognized by its small, loosely tufted, slender, stems, small leaves, and minute, solitary, terminal spikelet. After the achenes mature plants look like a tiny stick with a few tiny black eggs glued on top. Rolland's bulrush is an inconspicuous plant easy overlooked in its graminoid-dominated habitat.

**Phenology:** Flowers July, August and early September.

**Similar Species:** Most *Scirpus* species in Idaho have more than one flowering spike, as well as one or more elongated bracts below the inflorescence. However, two species have small, solitary, terminal spikelets similar to Rolland's bulrush. *Scirpus caespitosus* is a larger plant that forms distinctive tussocks and in Idaho appears to be restricted to peatland habitats. *Scirpus hudsonianus* has triangular stems and conspicuous, elongated perianth bristles. In comparison, Rolland's bulrush has more rounded stems and no perianth bristles. *Eleocharis* species (spike-rushes) have solitary, terminal spikelets and can also look similar. They can be distinguished by lacking leaf blades and technical differences in the flower such as thickened style bases which appear as a cap-like feature on the achenes. *Kobresia simpliciuscula* has multiple terminal spikelets and is commonly taller and more leafy than Rolland's bulrush.

**Habitat:** Rich fens; wet calcareous soils. Associated species at Idaho populations include *Eleocharis pauciflora*, *Kobresia simpliciuscula*, *Deschampsia cespitosa*, *Triglochin maritima*, and *Primula alcalina*.

**Idaho Distribution:** Known from the upper Little Lost River Valley in Custer County, and Birch Creek in Clark County.



*Spiranthes diluvialis*  
Photo © Robert K. Moseley

**Field Identification Tips:**

Ute ladies' tresses is characterized by stout, whitish, gaping flowers in a spirally arranged spike at the end of the stem. Its sepals are not fused, but instead are free or nearly so to the base. The lip petal is oval to lance-shaped in outline, and has a marked median constriction. It also has crispy-wavy margins and mostly parallel venation. The upper stem is sparsely to densely glandular-pubescent. Persistent leaves are largely restricted to the base, with the others reduced to bracts by flowering time.



Photo © Robert K. Moseley

*Spiranthes diluvialis*

***Spiranthes diluvialis* Sheviak**  
**Ute ladies' tresses**  
**Orchidaceae** (Orchid family)

**General Description:** A perennial orchid with one, or sometimes multiple stems 15-50 cm tall arising from tuberously thickened roots. The linear, mostly basal leaves are about 1 cm wide and up to about 30 cm long. The longest leaves arise from the base of the stem and persist through flowering. The inflorescence is up to about 15 cm long and contains a few too many white flowers arranged in a three-ranked spiral spike. Flowers are 7-15 mm long and ascending or perpendicular to the stem. The oval to lance-shaped lip petal is somewhat constricted in the middle and has wavy margins. Sepals are free or slightly fused at the base; the lateral ones often spreading abruptly from the flower base.

**Phenology:** In Idaho, plants typically begin to flower around mid-August, extending to mid-September.

**Similar Species:** Two other *Spiranthes* species are known to occur in Idaho. Flowers are needed to reliably distinguish them from Ute ladies' tresses. *Spiranthes porrifolia* (western ladies' tresses) is known from a population in northern Idaho. It has slenderly tubular flowers, lateral sepals fused below the tip, and a dense cushion of short, peg-like projections on the upper surface of the lip, just behind the apex. *Spiranthes romanzoffiana* (hooded ladies' tresses) is the species most likely to cause confusion with Ute ladies' tresses in Idaho and is known to co-occur with Ute ladies' tresses at several sites in the state. *Spiranthes romanzoffiana* is distinguished by having sepals fused for some length and united with the petals to form a prominent hood above the lip. It also has a more deeply constricted lip petal, and generally more densely congested spikes than Ute ladies' tresses. In addition, the peak flowering period for *S. romanzoffiana* is typically a little earlier in the season in Idaho. As a result, flowers on the majority of *S. romanzoffiana* plants will appear faded or with fruits when the majority of Ute ladies' tresses flowers are in prime condition or still with buds. Another co-occurring orchid with similar vegetative features is *Platanthera hyperborea* (*Habenaria hyperborea*; northern green bog orchid). This species has small greenish flowers and typically blooms much earlier than Ute ladies' tresses. It is also typically much larger in size, with more leaves occurring higher up the stem, and many more flowers in the inflorescence.

**Habitat:** Subirrigated, alluvial soils along streams and rivers and their floodplains, including abandoned river channels, wet meadows, and open seepy areas. In Idaho, Ute ladies' tresses is known from several wetland community types, the most common two being the *Salix exigua*/mesic graminoid and mesic graminoid types. Others include the *Elaeagnus commutata*/mesic graminoid; *Eleocharis rostellata*; *Equisetum* spp., and *Carex lanuginosa* types. Commonly associated species include *Agrostis stolonifera*, *Poa pratensis*, and *Muhlenbergia richardsonis*.

**Idaho Distribution:** South Fork of the Snake River floodplain in Jefferson, Madison, and Bonneville counties, and the Henrys Fork River near St. Anthony in Fremont County.

**Ute ladies'-tresses is listed as a Federal Threatened plant. DO NOT COLLECT!**

# IFFO RARE PLANT OBSERVATION FORM

In an effort to get a start on rare plant inventory for the Idaho Falls Field office, please take 2 minutes and provide as much information as you can.

Date: \_\_\_\_\_

Species: \_\_\_\_\_

Observer(s): \_\_\_\_\_

County: \_\_\_\_\_

T: \_\_\_\_\_ R: \_\_\_\_\_ S: \_\_\_\_\_ Q: \_\_\_\_\_ QQ: \_\_\_\_\_

GPS Information:

Datum: \_\_\_\_\_

UTM: (N) \_\_\_\_\_

(E) \_\_\_\_\_

Is this a new location?     YES     NO     UNSURE?

## POPULATION INFORMATION

Total # of individuals in population (s) is \_\_\_\_\_     Actual     Estimated

How big of an area does the population cover? \_\_\_\_\_

Population vigor is     excellent     good     fair     poor

This survey was:     very thorough     somewhat thorough     cursory     incidental

Any photos taken?     YES     NO

Use the following space and back of page to provide any extra information that you can: including habitat, condition of the habitat, subpopulation information, any known threats (ATV, grazing, ag trespass, recreation, etc...). Thanks for putting in the time to help inventory our rare plants ☺.

Date:  
Collector's Name:  
Location:  
UTM:

Datum:  
Description of habitat:

Date:  
Collector's Name:  
Location:  
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Datum:  
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Description of habitat:

**PLEASE USE PENCIL WHEN FILLING OUT  
LABELS, INK MAY BLEED.**

May 19, 2003

Greetings:

Enclosed you should find a CD copy of the Rare Plant Guide to the Pocatello and Idaho Falls Field Offices of the BLM.

This is the web-based field guide available on the CDC web site that I put into a Word document for easier printing. The pages are set-up to print two per sheet so the end product is one 8.5" x 11" page for each plant with the photos/drawings and plant information to use as a field guide.

All the information used was copied from the CDC web-based guide. I included a credits page and 'How to use this book' page.

If you have any questions, please feel free to contact me.



Wendy Velman  
Natural Resource Specialist  
Idaho Falls Field Office  
1405 Hollipark Drive  
Idaho Falls, ID 83401-2100  
(208) 524-7520  
Wendy\_Velman@blm.gov

Roger:

This is the simplified version of the web-based guide. I cut out the references, used only a couple of pictures per plant, I did not list global ranking, and I left out the Idaho location maps.

Look it over and let me know if you think we should have more information for it to be sent to a printer for publishing. I am not sure if I properly sited sources, I just copied those citations that CDC used. I also gave credit to CDC on the front page of the guide.

This is the list of people who I sent copies of the CD to:

Michael Mancuso	Conservation Data Center
Paige Wolken	Craters of the Moon
Dana Perkins	Challis FO
Alexia Cochrane	Salmon FO
Cleve Davis	Pocatello FO
Jim Tharp	Burley FO
Julie Hilty	Shoshone FO
Roger Rosentreter	ISO

I will also be giving a copy to Rose Lehman of the Caribou-Targhee.

Give me a call if you need more information.

Wendy

524-7520