

***Phleum pratense* L.**  
Common Timothy

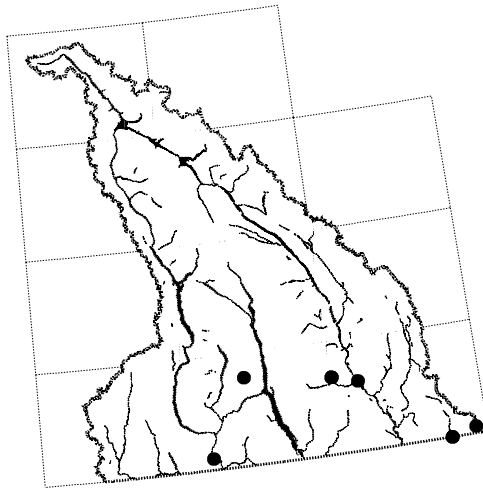
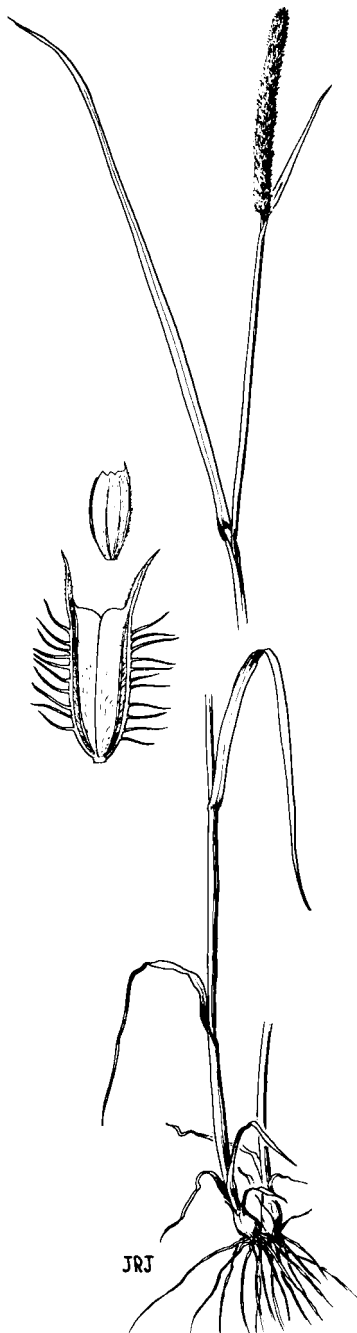
**Plant:** *Phleum pratense* is an introduced species that grows to 1 m tall. It is a clump-forming perennial with characteristic long cylindrical, spike-like, somewhat purplish to silvery flowerheads on wiry stems.

**Leaves and Stem:** The slightly bulbous stem bases arise from a fibrous root mass. The stem often bends at the lower nodes. Sheaths are open, with edges inrolled. Leaf blades are 4–10 mm wide, flat, and tapering. The leaf blades on the mid- to upper-flowering stem are much shorter (3–10 cm long) than the sheaths. Auricles are absent or tiny, but ligules are well developed, 2–3 mm long, and easy to see with a hand lens.

**Flowerhead and Flowers:** The small, flattened spikelets are packed tightly into the 4.5- to 13-cm-long unbranched flowerhead. Two equal, flattened, keeled glumes, often with dark purple nerves, enclose a single small flower. Long hairs line the keel of the glume, which extends into a short awn from the flattened top. The lemma is thin and membrane-like and its midvein extends slightly beyond the tip and resembles a short bristle.

**Habitat:** Common Timothy is widespread in fields, meadows, and roadsides. It is sown in pastures for forage and used in some reclamation mixtures.

**Similar Species:** Timothy is distinct among our grasses and not likely to be confused with other species at low elevation.



The genus *Phragmites* has three species: one native to South America, one native to Asia, and the species occurring in British Columbia that is widespread throughout the world in tropical and temperate areas. It is our tallest, and therefore most noticeable, grass species. However, the plants are too coarse to be of forage value. The name *Phragmites* comes from the Greek, meaning to grow in hedges, and probably refers to the habit of surrounding streams and ponds in areas where *Phragmites* is well established.

*Phragmites australis* (Cav.) Trin. ex Steud.

*Phragmites communis* (L.) Trin.

Common Reed

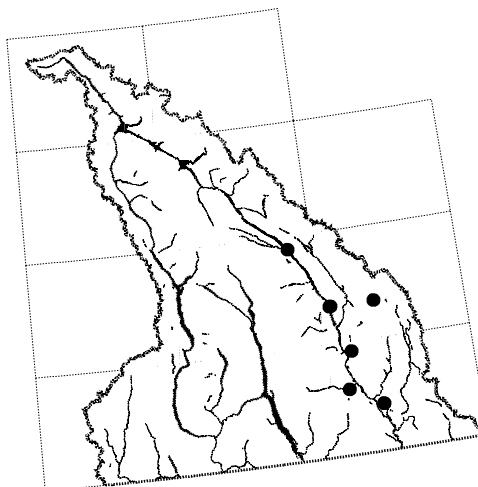
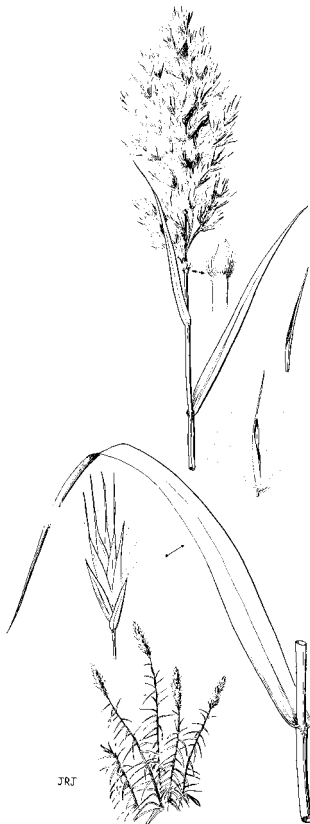
**Plant:** *Phragmites australis* is a native species that grows 2–3 m tall. It is a reed-like perennial with rhizomes. The large, feathery flowerhead is purplish early in the season and matures to a straw colour.

**Leaves and Stem:** Stout stems are hollow and smooth. The open sheaths do not have an auricle, are smooth, and twist in the wind so that the leaves are to one side of the stem. The ligules are 1.5–3 mm long and consist of half membrane and half hairs. The flat, coarse leaves are 1–4 cm wide.

**Flowerhead and Flowers:** The flowerhead is 15–35 cm long and purplish, and has a feathery form. Spikelets are three- to six-flowered. The second glume is 1/2 the length of the first one. The first lemma is unawned; the upper lemmas are smaller and have awns that are nearly as long as the lemma body. The long, silky hairs on the flowerhead arise from the base of the lemma along the branch axis. These hairs are slightly longer than the lemma.

**Habitat:** Common Reed grows in marshes, ponds, lakeshores, and ditches in lowland to montane zones. In the Columbia Basin region, it occurs at Tie Lake, Premier Lake, Fairmont Hot Springs, St. Eugene Mission, and Brisco.

**Similar Species:** The tall stature and large, feathery flowerhead make Common Reed distinctive from all other species. However, in a vegetative state Common Reed may be confused with the other tall wetland grasses such as Reed Canary Grass. The ligule of Reed Canary Grass is pointed, long, and all membrane-like, whereas that of Common Reed has hair along the upper edge and is blunt rather than pointed. The leaf blades of Common Reed are very coarse, and both grasses have rhizomes.



**PIPTATHERUM**

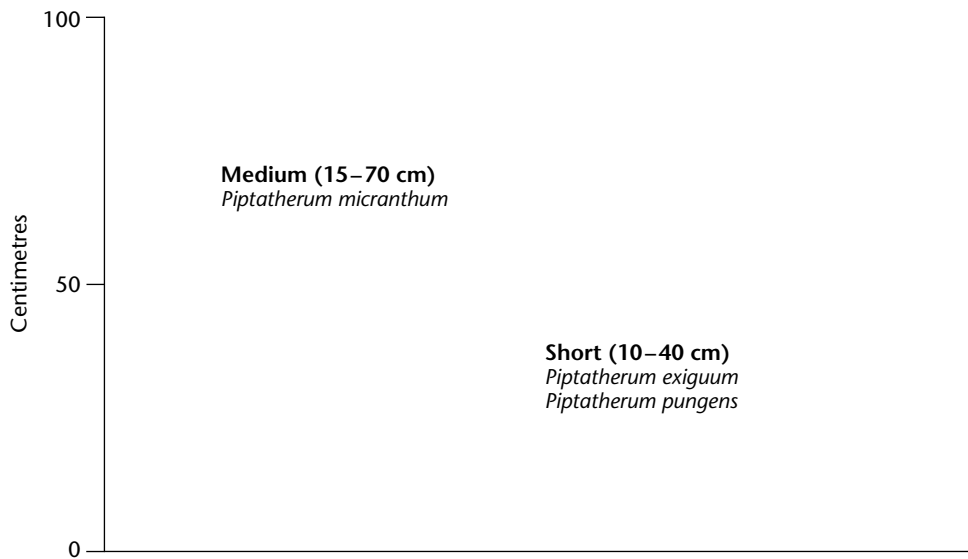
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*Piptatherum* is a genus of 30 species, most of which are Eurasian. The name comes from the Greek word *pipto*, meaning fall, and *ather*, meaning awn. Originally, most of the members in this treatment were included in *Oryzopsis*, but Barkworth (1998) has separated them. *Piptatherum* has a blunt to sharp callus that is less than 1/5 the length of the flower. This separates the members from *Stipa*. Leaf blades of *Piptatherum* are more than 0.5 mm wide, the awns are weakly to strongly bent, and the callus is round rather than pointed. There are three species of *Piptatherum* in the Columbia Basin region.

***Piptatherum*—Adapted from Barkworth (1999)**

- 1a.** Awns 1–2 mm long and absent at maturity. . . . . *Piptatherum pungens*
- 1b.** Awns 3–15 mm long and remain attached at maturity . . . . . 2
  - 2a.** Flowerhead branches spread; awns straight but twisted. . . . .  
. . . . . *Piptatherum micranthum*
  - 2b.** Flowerhead branches pressed close to the flowerhead axis; awns  
strongly bent. . . . . *Piptatherum exiguum*

**Heights of *Piptatherum* species**



*Piptatherum exiguum* (Thurber) Barkworth  
*Oryzopsis exigua* Thurb.  
Little Ricegrass

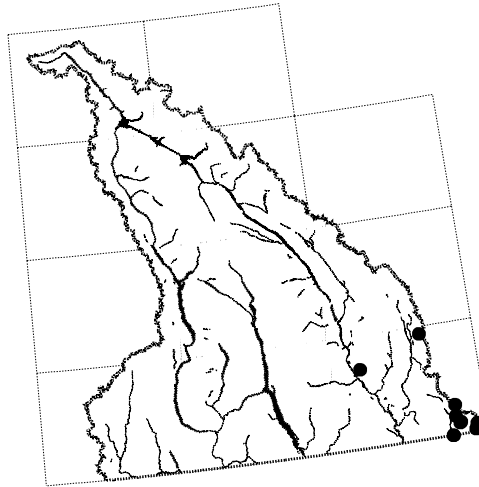
**Plant:** *Piptatherum exiguum* is a native species that grows 10–30 cm tall. It is a strongly tufted perennial with a spike-like flowerhead, and short, twisted awns.

**Leaves and Stem:** The smooth to slightly rough sheath is open and there are no auricles. The ligule is 3–4 mm high and pointed. The inrolled leaves are less than 1 mm wide.

**Flowerhead and Flowers:** The narrow flowerhead is 3–6 cm long and has short upward-pointing branches that are pressed tight to the stem. The glumes are broad and vary from blunt to somewhat pointed. They are equal in length. The hardened lemma is equal to or longer than the glumes. The lemmas have short hairs scattered over the back. The awn is 4–6 mm long and slightly twisted.

**Habitat:** Little Ricegrass grows in the steppe to the montane zone on dry talus slopes and ridges such as Mount Festubert, Grizzly Gulch, and Horse-shoe Ridge.

**Similar Species:** Little Ricegrass resembles Small-flowered Ricegrass (*Piptatherum micranthum*). However, Little Ricegrass differs by having twisted awns, and flowerhead branches that are pressed close to the stem, whereas Small-flowered Ricegrass has branches that spread out from the stem axis.



***Piptatherum micranthum*** (Trin. & Rupr.) Barkworth  
***Oryzopsis micrantha*** (Trin. & Rupr.) Thurb.  
Small-flowered Ricegrass

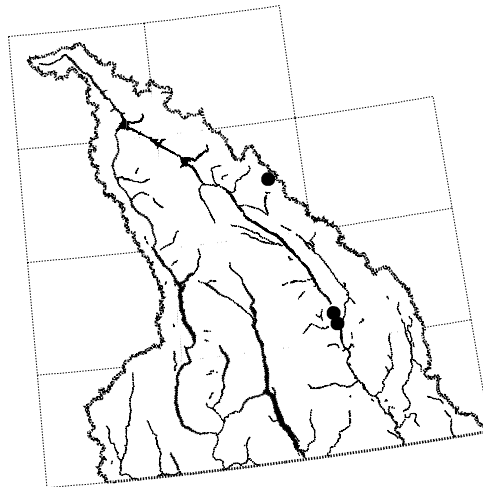
**Plant:** *Piptatherum micranthum* is a native species that grows 30–70 cm tall. It is a strongly tufted perennial with a moderately open, spike-like flower-head.

**Leaves and Stem:** The open sheath is smooth to slightly hairy with fine, short hairs. The ligule is 0.5 mm long, blunt, and finely hairy along the edge. The flat or slightly inrolled leaf blades are 1–2 mm wide.

**Flowerhead and Flowers:** The flowerhead is 7–15 cm tall and appears spike-like, but has branches that are slightly diverging. The equal glumes are papery, transparent, and sharply pointed. The lemma is hairless or occasionally covered in fine hairs. The lemma awn is 6–8 mm long, straight, stiff, and longer than the flower.

**Habitat:** Small-flowered Ricegrass grows on dry, rocky slopes or open forests in the steppe or montane zone. In the Columbia Basin region it occurs at Yoho National Park, Canal Flats, and Armstrong Bay.

**Similar Species:** Small-flowered Ricegrass resembles Short-awned Ricegrass (*Piptatherum pungens*), but differs by having a spreading flowerhead, and branches and awns that remain after maturity. The awns of Short-awned Ricegrass fall off shortly after maturity.



*Piptatherum pungens* (Torrey) Barkworth  
*Oryzopsis pungens* (Torr.) A.S. Hitchc.  
Short-awned Ricegrass

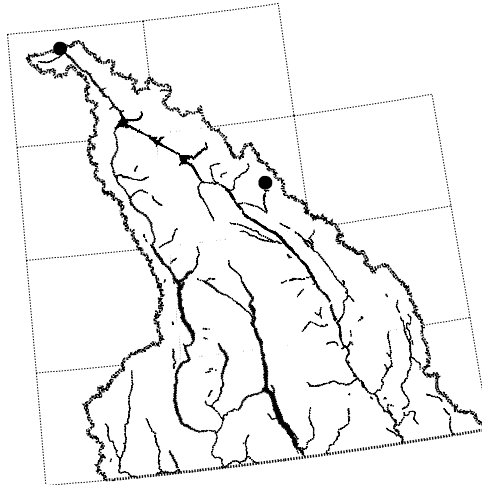
**Plant:** *Piptatherum pungens* is a native species that grows 15–40 cm tall. It is a tufted perennial with a spike-like flowerhead.

**Leaves and Stem:** The open sheath is smooth and there are no auricles. The ligule stands 0.5–1 mm high. Basal leaves are 10–30 mm wide, flat, or slightly inrolled.

**Flowerhead and Flowers:** The flowerhead is 2–6 cm long and spike-like and consists of branches that are tightly pressed against the spike axis. Hairless glumes are blunt or rounded and have a transparent edge. The lemma is as long as the glumes and covered in fine hairs. The awn is 1–2 mm long and falls off at maturity, so the flowers appear awnless.

**Habitat:** Short-awned Ricegrass grows on moist slopes in the montane zone in Yoho National Park.

**Similar Species:** Short-awned Ricegrass is unique in that it is the only species of *Piptatherum* in which the awn falls off at maturity.



*Poa* comes from the Greek word for grass, so it has been in common use for a long time. *Poa* has given its name to the grass family, the Poaceae. Kentucky Bluegrass is probably the name recognized by most people in conjunction with *Poa* species because it occurs in almost every lawn and pasture mixture. The bluegrass group of grasses are important as lawn, pasture, and forage grasses in North America. They have gone out of favour as pasture grasses because of their low midseason productivity. There is some debate as to where the name bluegrass came from, but one source stated that it was from Canada Bluegrass (*Poa compressa*), which is blue-green and was mistakenly used to describe Kentucky Bluegrass. Others attribute the common name to the blue appearance of a field of bluegrass at maturity. Others feel that the common name arose because it was the blueblood, or royalty, of the grasses.

As well as being the most common genus, it is also one of the most difficult to identify because several species reproduce asexually; that is, without the fusion of male and female gametes. In a few of the species of this genus, only female flowers form and reproduction occurs without pollen. Species resemble one another closely and many of the *Poa* species are of hybrid origin.

There are several key features that help separate *Poa* species from one another. These include the growth habit (i.e., whether it is an annual grass or is perennial), the presence of cobwebby hairs along the base of the lemma on the callus, and whether or not the lemma is keeled. The presence of a rhizome is also a key feature. Exact *Poa* identification sometimes demands a great deal of careful study, because a key feature is the degree of hairiness on the lemma, which requires the use of a dissecting microscope.

Kentucky Bluegrass was introduced to the east coast of North America by colonial settlers in 1600, and slowly spread west with settlement. Two species of *Poa* are the only vascular plant weeds in Antarctica. Many ecologists attribute the practice of seeding pastures with improved species with the decline in native grass species.

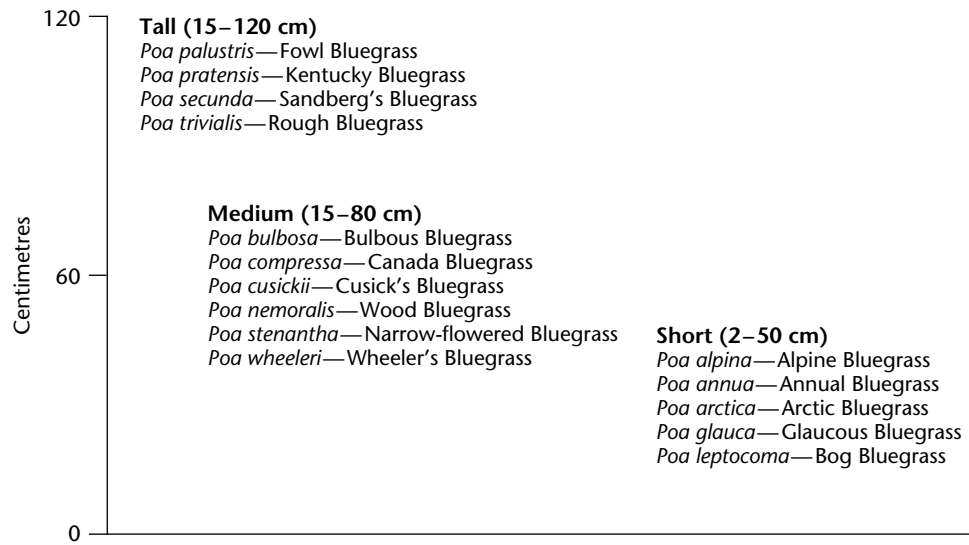
It would be a mistake to think that *Poa* species are introduced pasture grasses only. In western North America at high altitudes *Poa alpina*, *P. arctica*, *P. cusickii*, and *P. glauca* ssp. *rupicola* are important natural forage. Below the treeline *P. secunda* (*P. sandbergii*) and *P. glauca* are very important as natural forage.

**Poa—Adapted from Hickman (1993)**

- 1a.** Spikelets producing leafy bulblets in place of normal flowers . . . . . 2
  - 2a.** Plants tufted with bulbous stem bases; leaves soft and soon withering . . . . . *Poa bulbosa*
  - 2b.** Plants with rhizomes; broader leaf blades . . . . . *Poa pratensis*
- 1b.** Spikelets not producing bulblets . . . . . 3
  - 3a.** Plants annual . . . . . *Poa annua*
  - 3b.** Plants perennial . . . . . 4
    - 4a.** Rhizomes or stolons present . . . . . 5
      - 5a.** Stem and nodes compressed; appear flattened; leaf sheaths open to near the base . . . . . *Poa compressa*
      - 5b.** Stem and nodes not compressed . . . . . 6
        - 6a.** Callus cobwebby or not, or with a short tuft of hairs; but lemma has hairs throughout . . . . . 7
          - 7a.** Flowers contain only female or pistillate flowers . . . . . *Poa wheeleri*
          - 7b.** Flowers have both anthers and stigma . . . . . *Poa arctica*
        - 6b.** Callus cobwebby; hairs may be short; lemma keel and veins only with hairs . . . . . 8
          - 8a.** Lower glume three-veined . . . . . *Poa palustris*
          - 8b.** Lower glume one-veined . . . . . *Poa leptocoma*
      - 4b.** Rhizomes or stolons absent . . . . . 9
        - 9a.** Callus cobwebby . . . . . 10
          - 10a.** Lower glume generally three-veined; sheaths open for 4/5 length . . . . . 11
            - 11a.** Ligule of upper stem leaf blunt . . . . . *Poa nemoralis*
            - 11b.** Ligule of upper stem leaf sharply pointed . . . . . *Poa palustris*
          - 10b.** Lower glume one-veined; sheaths open for less than 3/4 length . . . . . 12
            - 12a.** Anthers shorter than 1 mm; high montane to alpine . . . . . *Poa leptocoma*
            - 12b.** Anthers longer than 1.3 mm; plants of lowland . . . . . *Poa trivialis*
        - 9b.** Callus not cobwebby but may have ring of short hairs . . . . . 13
          - 13a.** Spikelets broadly rounded at the base; flowerhead pyramid-like . . . . . *Poa alpina*
          - 13b.** Spikelets lance-shaped or cylinder-shaped in outline . . . . . 14
            - 14a.** Spikelet not compressed; lemma with weak keel . . . . . *Poa secunda*
            - 14b.** Spikelet compressed; oval in outline; lemma keeled to base . . . . . 15
              - 15a.** Leaves soft and slightly inrolled to flat . . . . . 16
                - 16a.** Ligule short and blunt on upper stem leaves . . . . . *Poa glauca*
                - 16b.** Ligule sharply pointed on upper stem leaves . . . . . *Poa stenantha*
              - 15b.** Leaves stiff, inrolled, and sometimes folded . . . . . *Poa cusickii*



## Height of *Poa* species



*Poa alpina* L.  
Alpine Bluegrass

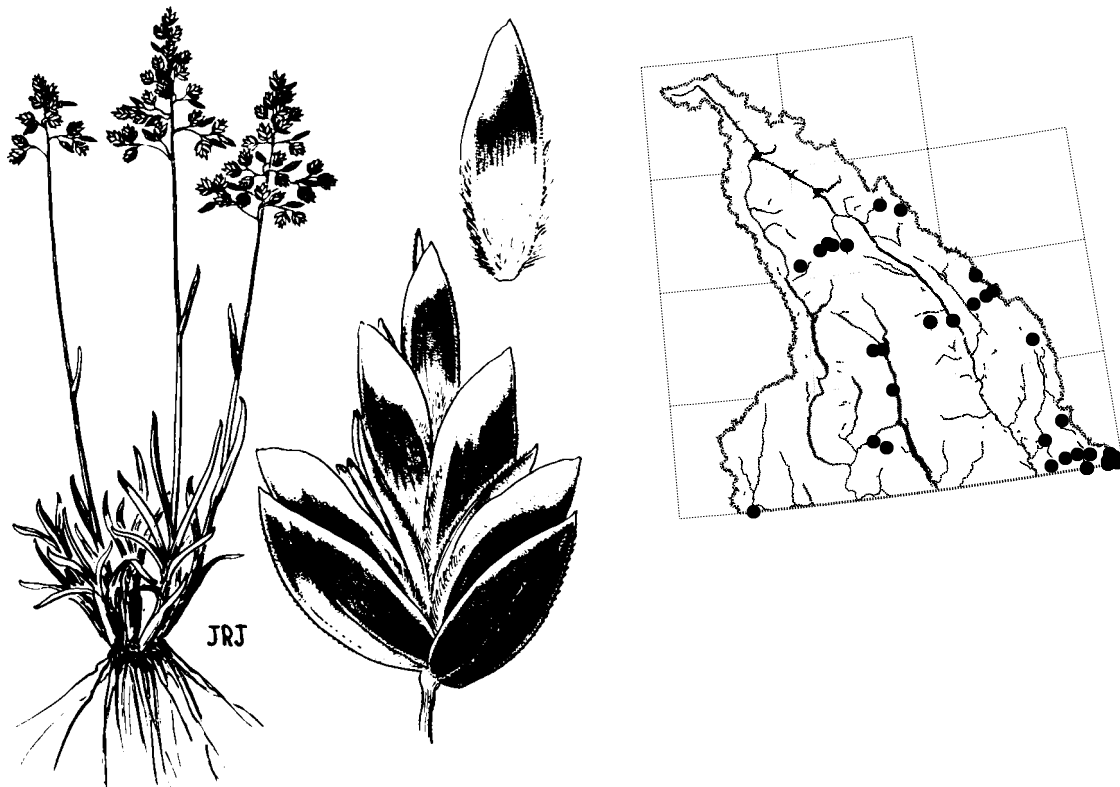
**Plant:** *Poa alpina* is a native species that grows 10–40 cm tall. It is a densely tufted perennial grass with basal leaves and a leaf about half-way along the stem, bearing a pyramid-shaped flowerhead.

**Leaves and Stem:** The smooth sheaths are open, almost to the base, and persist as obvious white or cream-coloured sheath fragments at the base of the culms. There are no auricles. Blunt ligules are 1–3 mm long and ragged along the edge. Flat leaf blades are 2–4 mm wide and occur mostly at the base of the stem, where they form a dense mat. There are small leaves along the stem mostly below the midpoint of the stem. The tips of the leaves are boatlike or prow-like.

**Flowerhead and Flowers:** The pyramid-shaped flowerhead is as wide as it is long (2–6 cm). Spikelets are green to purplish. Two broad, unequal glumes have a wide transparent margin and minute bumps along the midnerve. The lemmas are almost as long as the glumes and have coarse hairs along the keel and the edges, but they do not have cobwebby hairs at the base.

**Habitat:** Alpine Bluegrass commonly occurs throughout the Columbia Basin region in alpine and subalpine communities in open meadows or gravelly disturbed sites.

**Similar Species:** Alpine Bluegrass resembles *Poa grayana*, and Douglas et al. (1994) have placed all records for *P. grayana* in with Alpine Bluegrass. Although Hitchcock et al. (1969) describe *P. grayana* as having cobwebby hairs, this feature varies greatly and is unreliable as a differentiating factor when separating Alpine Bluegrass and *P. grayana*.



*Poa annua* L.  
Annual Bluegrass

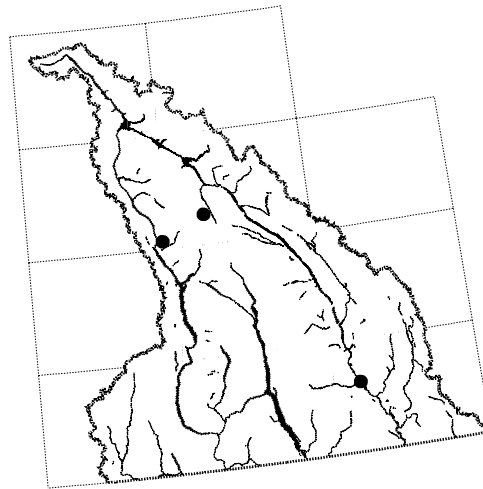
**Plant:** *Poa annua* is an introduced species that grows 5–25 cm long. It is an early flowering, hairless annual that forms small mats with whitish green, open flowerheads.

**Leaves and Stem:** Spreading and flattened stems root at the nodes from which the flowering branches arch upwards. Sheaths are open for more than 1/2 the length, but the margins overlap. Hairless leaf blades are 1–4.5 mm wide and folded in half along the midrib—especially the leaves toward the base. There are no auricles. The whitish ligule is about 1–2 mm high and clearly visible when you bend back the leaf blade.

**Flowerhead and Flowers:** The pyramid-shaped open flowerhead is 3–8 cm long. Branches are mostly perpendicular to the stem axis. The spikelets are 3–6 mm long and contain three to six flowers each. The two glumes are unequal and much shorter than the spikelet. The flowers are spaced out along the axis so much that you can see the axis between them. The five-nerved lemmas and the glumes may have purplish margins (especially in young flowers) and may be hairy toward the base.

**Habitat:** Annual Bluegrass is a common, weedy species that grows in gardens and lawns, along roadsides, on disturbed sites, and even in open woods. The collections of these specimens at the Royal BC Museum come from Fort Steele, Glacier National Park, and Mount Revelstoke Park.

**Similar Species:** The early flowering of Annual Bluegrass (starting in March), its small size, stem-rooting habit, and open flowerhead should be enough to distinguish this species from other very short grasses such as the hairgrasses (*Aira* spp.).



***Poa arctica* R. Br.**  
Arctic Bluegrass

**Plant:** *Poa arctica* is a native species that grows 15–40 cm tall. It is a loosely tufted perennial with an open, pyramid-shaped flowerhead, and the branches are somewhat diverging from the axis.

**Leaves and Stem:** The stem curves upwards, growing from short rhizomes that could be confused with stolons. Sheaths are open to 1/4 of the length. The brown, dead leaves and sheaths persist around the base of the stem. These are not as creamy white as those of Alpine Bluegrass. The leaves are short and usually inrolled with rough edges. The pointed ligule is 1–3 mm high. There are no auricles.

**Flowerhead and Flowers:** The flowerhead is open and pyramid-shaped. Purplish spikelets contain two to three flowers. The glumes are equal in length and the lemmas are more or less hairy at the base and across the lower back. There is often a tuft of cobwebby hairs at the base of the lemma on the callus.

**Habitat:** In the Columbia Basin region, Arctic Bluegrass has been collected from the Flathead area and likely grows widespread throughout the region in moist to wet meadows in the alpine and subalpine zone.

**Similar Species:** Arctic Bluegrass has two subspecies in British Columbia: *lanata* and *arctica*. Subspecies *lanata* has longer spikelets (>6 mm) and correspondingly longer lemmas than subspecies *arctica*. The stem leaf blades are flat and more than 2 mm wide. Subspecies *arctica* has smaller spikelets and the stem leaf blades are folded or inrolled and less than 2 mm wide. Douglas et al. (1994) note that subspecies *arctica* is widespread throughout British Columbia, whereas subspecies *lanata* occurs in northwest British Columbia.

