

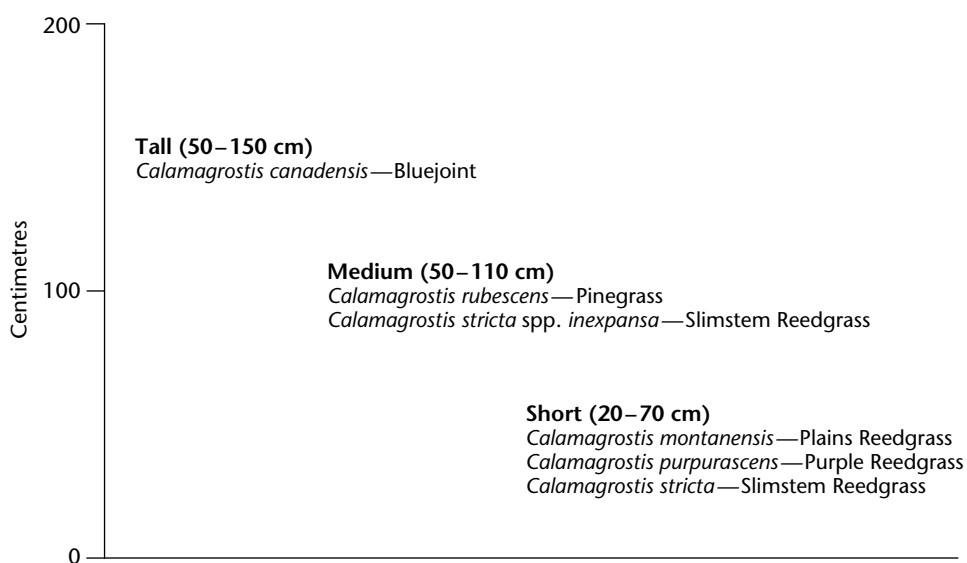
The word *agrostis* is Greek for grass, and the prefix *calamos* means reed. This genus, though reedy in appearance, is used as native forage grass in the west, especially in the montane and more northerly areas. In low wetland areas *Calamagrostis canadensis* provides wild, palatable hay for cattle, but the abundance is sporadic at best. All *Calamagrostis* species are perennial and relatively tall, with creeping rhizomes and a callus with a long, straight tuft of hairs, sometimes as long as the lemma. The spikelets are one-flowered and both glumes are equal and sharp-pointed.

All species have awns on the lemma. The important feature in determining species differences is whether the lemma awns project beyond the glume tips or just reach the glume tips. It is also important to note whether the awns are twisted and bent or straight. Whether the flowerhead is open or is pressed close to the stem is also a useful distinguishing feature. The length of the callus hairs relative to the length of the lemma helps distinguish the species as well.

***Calamagrostis*—Adapted from Douglas et al. (1994)**

- 1a.** Lemma awns extending beyond glume tips, twisted and bent 2
- 2a.** Glumes 4–5 mm long; leaf sheaths hairy on collars. . .
. *Calamagrostis rubescens*
- 2b.** Glumes 4.5–8 mm long; leaf sheaths finely hairy or rough but smooth
on the leaf collars *Calamagrostis purpurascens*
- 1b.** Lemma awns not reaching glume tips or barely extending beyond glume
tips 3
- 3a.** Flowerhead of loose branches, spreading; callus hairs abundant, 1/2 as
long as lemmas *Calamagrostis canadensis*
- 3b.** Flowerhead contracted, branches pressed close to the axis 4
- 4a.** Callus hairs 1/2 as long as lemmas; awns straight to twisted. . .
. *Calamagrostis stricta*
- 4b.** Callus less than 1/2 length of the lemmas; awns twisted and
bent. *Calamagrostis montanensis*

Heights of *Calamagrostis* species



***Calamagrostis canadensis* (Michx.) Beauv.**
Bluejoint

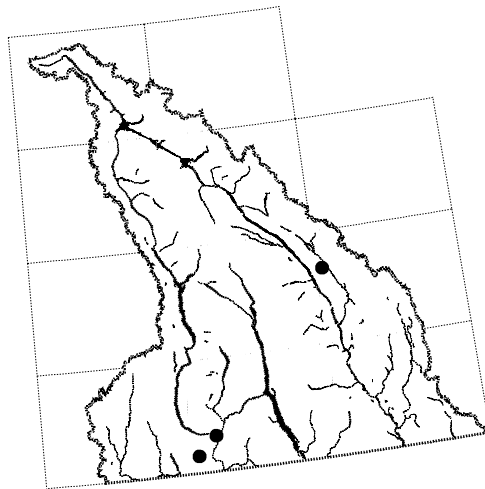
Plant: *Calamagrostis canadensis* is a native species that grows 50–150 cm tall. It is a perennial with creeping rhizomes and an open, somewhat drooping flowerhead.

Leaves and Stem: The smooth to rough sheaths are open to the node and there are usually three to eight nodes along the stem. There are no auricles and the membrane-like ligules are 3–8 mm long. The flat leaf blades are lax, rough on both surfaces, and 3–8 mm wide.

Flowerhead and Flowers: The open flowerhead can appear drooping when fully mature and is 5–30 cm long. The spikelets are numerous on the upper half of the branches. The glumes are slightly unequal and 3.0–4.5 mm long, and can be slightly purple-tinged. The edges of the glumes feel rough, and the tips are sharp-pointed; the glumes are longer than the lemma. The lemma is almost transparent along the edges, and has a delicate awn extending just to the length of the lemma or slightly beyond. The callus has hairs from 1/2 the length to the same length as the lemma, which is in contrast to the long cobwebby hairs of species in *Poa*.

Habitat: Bluejoint grows in moist, open meadows or open forest in all zones. In the Columbia Basin region it occurs widely around lakes.

Similar Species: Bluejoint in British Columbia is divided into two intergrading varieties: *canadensis* and *langsдорffii*. Variety *canadensis* is a smaller plant, has shorter glumes than variety *langsдорffii*, and the keels of the glumes are not hairy. In addition, the margins of the lemmas are transparent and the awns of the lemma are thin and narrow and not obvious, whereas the lemma awns of variety *langsдорffii* are thicker and obvious.



Calamagrostis montanensis (Scribn.) Scribn.
Plains Reedgrass

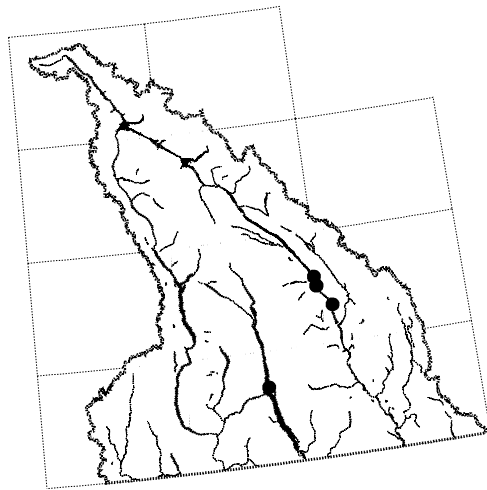
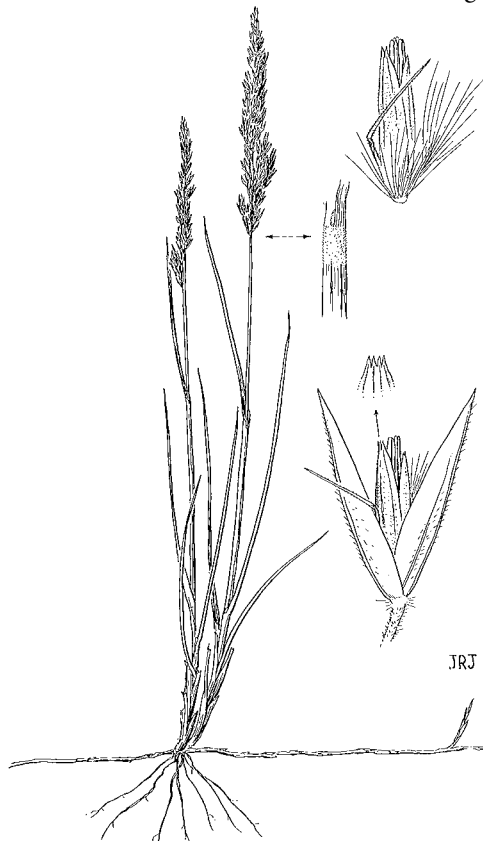
Plant: *Calamagrostis montanensis* is a native species that grows 30–60 cm tall. It is a perennial with rhizomes. The flowerhead is not spreading, but consists of a tight spike and has numerous spikelets at the end of the very short branchlets.

Leaves and Stem: The smooth sheath is open and there is no auricle. The stem is rough just below the flowerhead but gets smooth toward the base. The pointed ligule is 3–5 mm high and has a ragged to hairy edge. The leaves are mostly basal, stiff, inrolled, 3 mm wide, and blue-green.

Flowerhead and Flowers: The branches of the 3- to 10-cm-long flowerhead are pressed close to the stem even when mature. This character may be misleading in dried specimens because the branches tend to spread when they are pressed. There are two transparent glumes with a raised keel that has a rough feel. The glumes are about equal in length and longer than the first flower. The lemma is slightly shorter than the glumes and has blunt teeth at the tip. The coarse, bent awn equals the glume in length and begins about 1 mm from the base of the lemma. Scattered hairs, 1/2 as long as the lemma, cover the callus.

Habitat: Plains Reedgrass grows on dry grassland sites in the montane to alpine zones. In the Columbia Basin region it has been collected at Invermere and Fairmont Hotsprings and near Radium.

Similar Species: Plains Reedgrass could be confused with Pinegrass (*Calamagrostis rubescens*), but Plains Reedgrass is shorter (30 cm compared to 50–110 cm) and does not have awns that protrude beyond the glume tips, and the leaf collars do not have the tufted hairs of Pinegrass. This species is Blue listed in Douglas et al. (1998), and is rare in British Columbia.



Calamagrostis purpurascens R. Br.
Purple Reedgrass

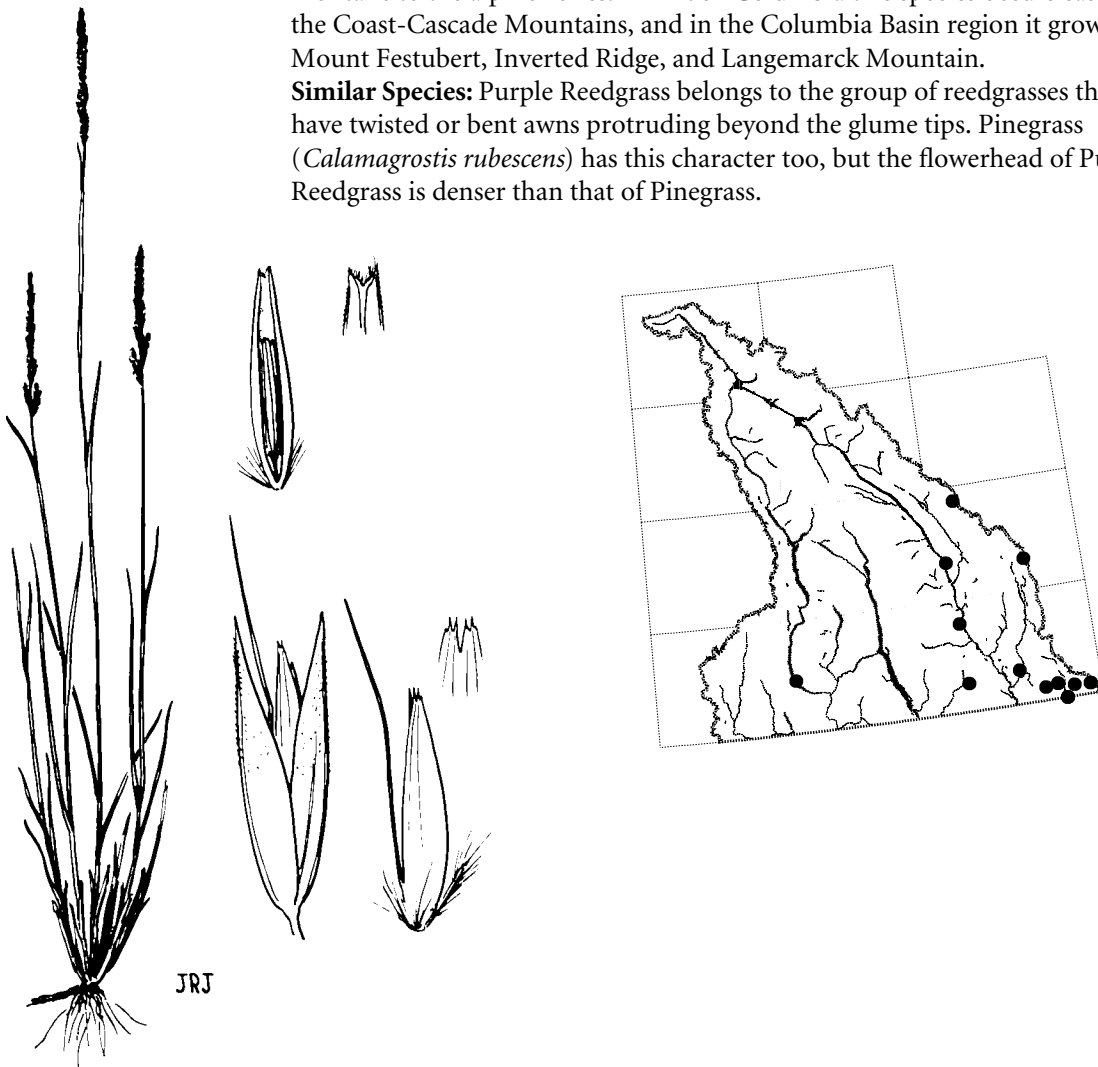
Plant: *Calamagrostis purpurascens* is a native species that grows 30–70 cm tall. It is a strongly tufted perennial, often with short rhizomes. The purple-to bronze-tinged flowerhead is crowded along the stem axis.

Leaves and Stem: Open sheaths are smooth to rough to the touch. The ligule stands 2–4 mm high, and is blunt with ragged edges. The sides of the ligule are often higher than the back. The leaves are 2–5 mm wide, shiny, and flat when young, but become inrolled with age. The leaf edges are rough.

Flowerhead and Flowers: The flowerhead is purple to bronze-tinged and grows to 4–10 cm long. Its branches are arranged close to the axis but not spreading. The glumes are slightly unequal and rough along the raised keel. The glumes exceed the first flower. The thin lemma is $\frac{2}{3}$ as long as the glume. A coarse, bent awn is attached near the base of the lemma and protrudes beyond the lemma and the glume. The callus hairs are much shorter than the lemma.

Habitat: Purple Reedgrass grows on dry ridges and talus slopes in the upper montane to the alpine zones. In British Columbia this species occurs east of the Coast-Cascade Mountains, and in the Columbia Basin region it grows on Mount Festubert, Inverted Ridge, and Langemarck Mountain.

Similar Species: Purple Reedgrass belongs to the group of reedgrasses that have twisted or bent awns protruding beyond the glume tips. Pinegrass (*Calamagrostis rubescens*) has this character too, but the flowerhead of Purple Reedgrass is denser than that of Pinegrass.



Calamagrostis rubescens Buckl.
Pinegrass

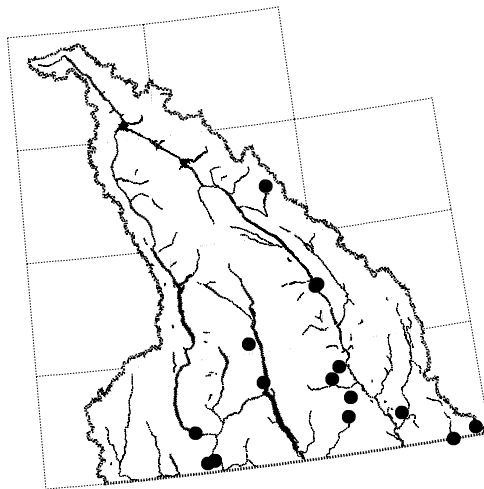
Plant: *Calamagrostis rubescens* is a native species that grows 50–110 cm tall. It is a strongly tufted, perennial grass with rhizomes. The flowerhead is tight to somewhat narrow but open.

Leaves and Stem: Open and smooth sheaths have stiff hairs around the collars where the leaf blades meet the sheaths, and the collars are covered in dense, short hairs. There are no auricles. Blunt ligules are 1–5 mm long and have a ragged edge. The flat leaves are 2–4 mm wide and rough, at least along the edges.

Flowerhead and Flowers: The flowerhead varies from slightly open to tightly closed. The nearly equal glumes are sharply pointed and nearly smooth, except along the raised keel, where there are scattered, short, stiff hairs. The papery lemma is shorter than the glumes and thin. A bent and twisted awn arises just above the base of the lemma and equals the glumes in length. The callus has short hairs barely over 1 mm long.

Habitat: Pinegrass grows in dry meadows, under open and closed forest canopies, and on rocky slopes. It occurs on the sandy raised terraces of the Columbia River, such as those near Invermere, and at Grand Forks, Trail, Arrow Lakes, Moyie Lake, and Silver Spring Lake.

Similar Species: Pinegrass resembles Purple Reedgrass in that both have long lemma awns that protrude beyond the glumes, and both have hairy collars. Purple Reedgrass has longer glumes (4–5 mm compared to 4.5–8 mm) than Pinegrass, and the awns protrude further.



Calamagrostis stricta (Timm) Koel.
Slimstem Reedgrass

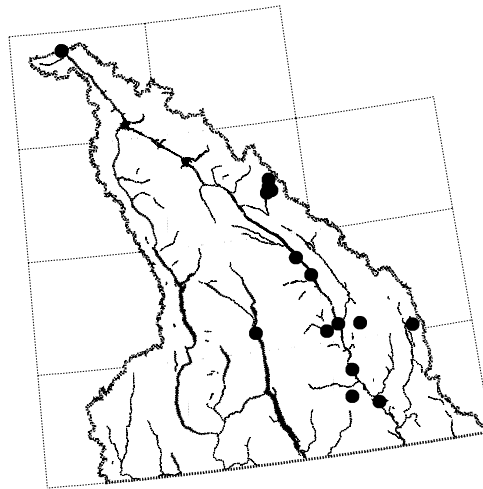
Plant: *Calamagrostis stricta* is a native species. The subspecies *stricta* grows 20–60 cm tall, and subspecies *inexpansa* grows 40–100 cm tall. It is a stoloniferous perennial that often forms turf. The dense spike-like flowerhead ranges from a narrow pyramid (in subspecies *inexpansa*) to a narrow spike (in subspecies *stricta*).

Leaves and Stem: The open sheath is smooth and has no auricles. Ligules are 1–3 mm long and smooth-edged. The 2- to 5-mm-wide leaves are rolled inwards and feel smooth to rough.

Flowerhead and Flowers: The flowerhead of *stricta* is a narrow spike. The flowerhead of *inexpansa* is a narrow pyramid. The flowerhead ranges from 5–12 cm long for both subspecies. Glumes are purplish, bronze, or greenish, and smooth to rough along the raised keel. Glumes are equal in length and about the same length as the first flower. The lemma has a long, straight awn attached below the middle and extending to equal the glumes. The callus hairs are unequal and $1/2$ to $3/4$ as long as the lemma.

Habitat: Slimstem Reedgrass grows on silty alkaline soils, around lakeshores, and in open forests. In the Columbia Basin region subspecies *inexpansa* appears to be the most common and occurs at Lardeau, Radium, Valemont, and Field (to name a few locations). Subspecies *stricta* has been collected only at Lavington Creek. Douglas et al. (1994), state that subspecies *inexpansa* and subspecies *stricta* are common east of the Coast-Cascade Mountains.

Similar Species: Subspecies *inexpansa* differs from subspecies *stricta* by its taller and more robust growth. The leaf blades of subspecies *stricta* are stiffer. The awn of the lemma usually extends slightly beyond the tip of the glume in subspecies *inexpansa*.



This North American genus has five species and resembles *Calamagrostis* superficially. Differing ligule types (in *Calamagrostis* it is membrane-like compared to a ring of short hairs in *Calamovilfa*) can be observed with a hand lens. *Calamovilfa* has some value as a forage grass for horses, and with the stout rhizome it is a good soil stabilizer, especially in sand.

Calamovilfa longifolia (Hook) Scribn. var. ***longifolia***
Prairie Sandgrass

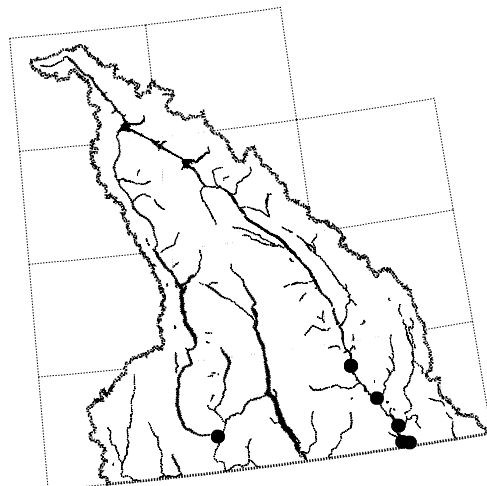
Plant: *Calamovilfa longifolia* is a native species that grows 60–150 cm tall. It is a coarse, strongly rhizomatous perennial. The flowerhead is 40 cm long and narrow to open.

Leaves and Stem: The open sheaths are smooth to soft-hairy, and the hairs at the sheath throat are 2–3 mm long. The less-than-1-mm-long ligule consists of a ring of short hairs. The inrolled leaf blades are 3–8 mm wide, and have long, slender tips.

Flowerhead and Flowers: The flowerhead is 40 cm long and narrow to open. Spikelets are pale green or purplish. The notably unequal glumes are 4.5–7 mm long, and extend into long, sharp points. The smooth lemma is midway in length between the two glumes and may be sharp-pointed to blunt. The callus is very hairy.

Habitat: Prairie Sandgrass grows on dry, sandy sites in the steppe and lower montane zones. In the Columbia Basin region, Prairie Sandgrass occurs at Tobacco Plains, Wasa Lake, and Bull River, and along the Kootenay River. The Waldo site recorded in the Royal BC Museum database is now under water.

Similar Species: *Calamovilfa* can appear to resemble *Calamagrostis*, but the ligules of *Calamovilfa* consist of short hairs, whereas the ligules of *Calamagrostis* are membrane-like.



This genus has seven species in Northern Eurasia compared to one species in North America. Though palatable, it grows primarily in aquatic habitats and is too infrequent or difficult to harvest to be an important forage grass.

***Catabrosa aquatica* (L.) Beauv.**

Water Hairgrass

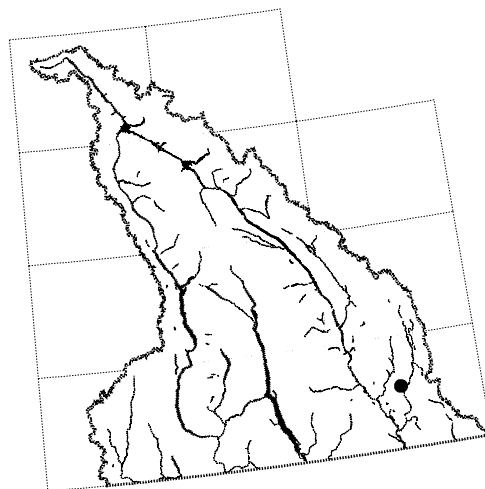
Plant: *Catabrosa aquatica* is a native species that grows 10–60 cm tall. It is an aquatic perennial with a creeping or slightly bent base. The open flowerhead is pyramid-shaped with small blunt-looking spikelets, and one or two flowers in each spikelet.

Leaves and Stem: Sheaths are open to 1/2 their length or closed for their full length. Flat leaves are 2–13 mm wide and the tips are prow-like (similar to *Poa* species). The ligules are 2–8 mm long and hairy to smooth along the upper edge. There are no auricles.

Flowerhead and Flowers: The open flowerhead is 7–20 cm long with one or two flowers to each spikelet. The blunt, ragged-edged glumes are shorter than the flowers, nerveless, and membrane-like. The lemmas are unawned and prominently nerved, and the nerves do not converge at the tip of the lemma.

Habitat: Water Hairgrass grows in moist meadows and along lakeshores and streambanks in the montane zone. Water Hairgrass has been found only in one location near Fernie. It is a Red-listed species by the B.C. Conservation Data Centre (Douglas et al. 1998).

Similar Species: In British Columbia, Water Hairgrass occurs at the northwestern limit of its range, and there are no species that it closely resembles.



Cinna has three species in the Americas, and, although palatable, it occurs in amounts too small to be of value as forage.

Cinna latifolia (Trevir.) Griseb.

Nodding Woodreed

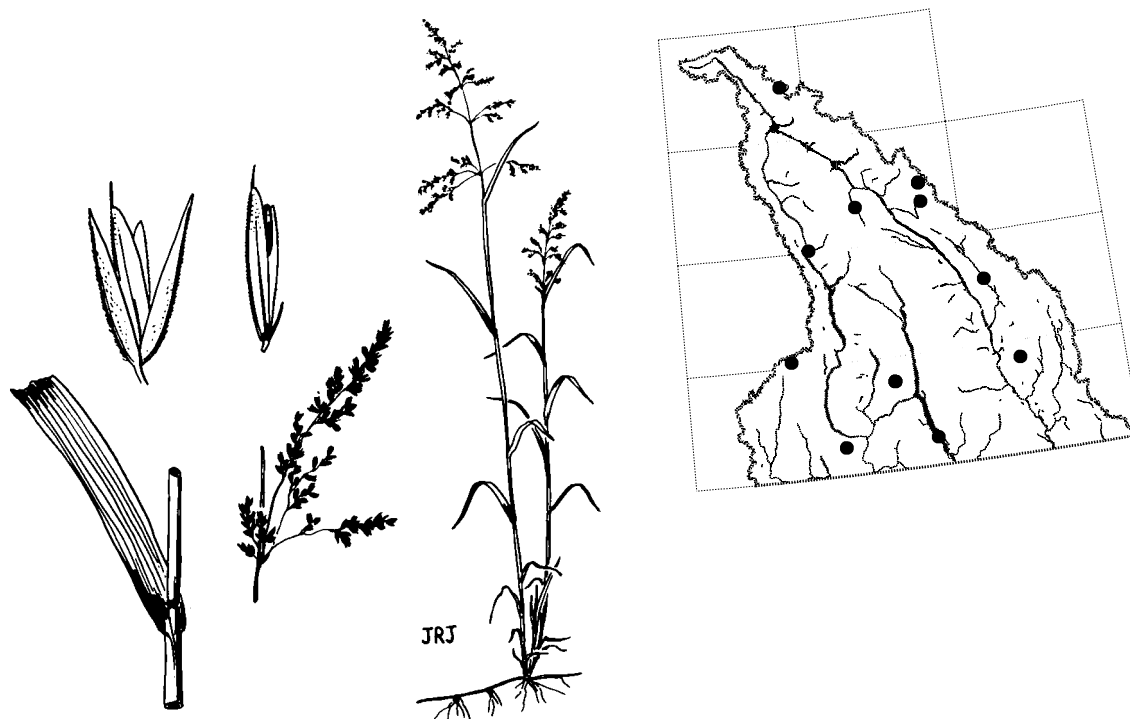
Plant: *Cinna latifolia* is a native species that grows 60–200 cm tall. It is a perennial with rhizomes and a nodding flowerhead.

Leaves and Stem: The base of the stem is sometimes bulbous. The soft, thin leaves are 7–15 mm wide in the middle and narrow abruptly to a sharp tip. The leaves stand at right angles to the stem. The sheaths are open, and there are no auricles. Ligules are 3–8 mm long and hairy, and often have a tattered edge. This species is sweetly scented.

Flowerhead and Flowers: The flowerhead is open, drooping, and 15–30 cm long. One-flowered spikelets hang from the ends of the drooping branches. The narrow glumes are strongly keeled and about the same size. The strongly flattened lemma is about the same length as the glumes, and may or may not have a short awn. Spikelets break off at the base of the glumes—not above the glumes as in many grasses—leaving behind naked branches at maturity.

Habitat: Nodding Woodreed grows in moist meadows and woods, and along streams, especially in disturbed sites. This species occurs in the Columbia Basin region along the Bull River, in Mount Revelstoke National Park, and in Yoho National Park.

Similar Species: The tall stature, drooping flowerhead, and wide leaves distinguish this species clearly.



This small genus from Eurasia has two spikelet forms: a sterile form (which can have a distinctive fan-like shape) and a fertile form. Two species occur in British Columbia, *Cynosurus echinatus* and *C. cristatus*. Though not collected from the Columbia Basin region, *C. cristatus* is sometimes cultivated and may show up in the future.

***Cynosurus echinatus* L.**
Hedgehog Dogtail

Plant: *Cynosurus echinatus* is an introduced species that grows 20–50 cm tall. It is a clump-forming, hairless annual with spiky, elongate to egg-shaped heads.

Leaves and stem: The flat leaves are 2–5 mm wide and distributed along the stem. The open leaf sheaths are loose and enlarged. There are no auricles, and the prominent ligules extend from 2 to 7 mm and are rounded and ragged at the tip.

Flowerhead and Flowers: The bristly flowerheads appear unbranched with the spikelets tightly grouped into a spike-like to somewhat rounded head. Spikelets occur mostly in pairs, with the sterile spikelet modified into a flattened, bristly fan. The other spikelet is fertile with two shortly awned, nearly equal glumes. The two flowers of the fertile spikelet have lemmas with long, pointed awns. These awns may reach 10 mm and stick out well beyond the glumes.

Habitat: Hedgehog Dogtail occurs in meadows, clearings, and open coniferous woodlands. It grows along the shoreline of Kootenay Lake.

Similar Species: Hedgehog Dogtail has distinctive pairs of spikelets, with one sterile and the other fertile. It should not be confused with any other species.

