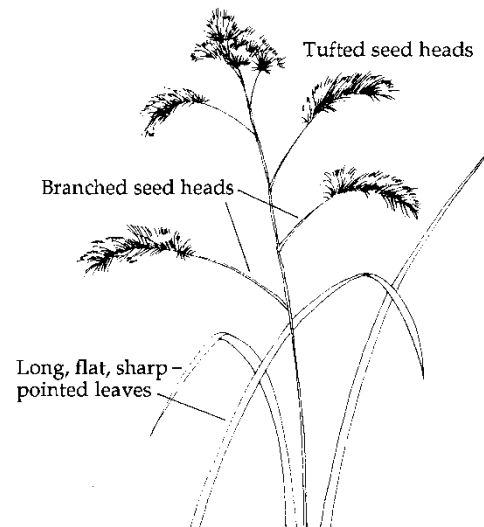
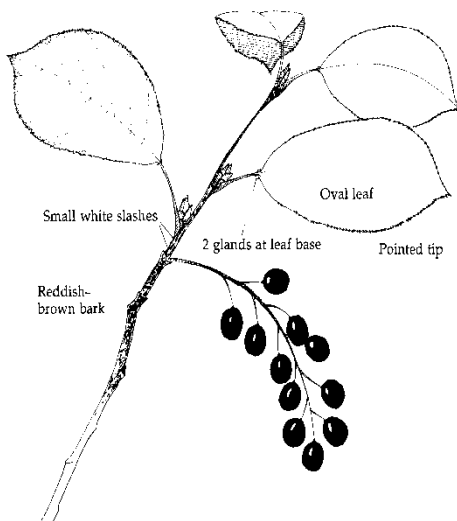




IMPORTANT PLANTS

That Every Forest Steward Should Know



April 19, 2021

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Flickr.com (credits on photos)

About this publication

This publication was developed for use by the MSU Extension Forestry Forest Stewardship Program to help private forest owners identify some of the more common plants (shrubs, forbs, and grasses) found in the forests of Montana. Another useful guide is *Trees and Shrubs of Montana Forests*, this is a more comprehensive guide to Montana's trees and shrubs.

In these pages you will find information useful to identify the selected plants including physical characteristics, location of habitats, pictures and diagrams as well as palatability to domestic and wild animals. On each page is a box showing a general rating of palatability, invasiveness, and flammability. These characteristics can vary with location, local climates, time of year, and other influences. The ratings are from 1-5, 1 being the lower value and 5 being the most. A 1 in palatability would mean that the plant is not palatable to most animals through most of its life cycle. A 5 in flammability means that the plant can be quite flammable.

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Kentucky bluegrass

Poa pratensis

Matt Lavin, MT State University, Flickr.com



What does it look like?

Leaves come off stem at 45° angle. Leaves have *boat shaped* ends. Showy, drooping seed heads. Grows to 3 feet tall. Perennial grass with rhizomes. Introduced from Europe.

Can be confused with:

This large grass family has many similar species.

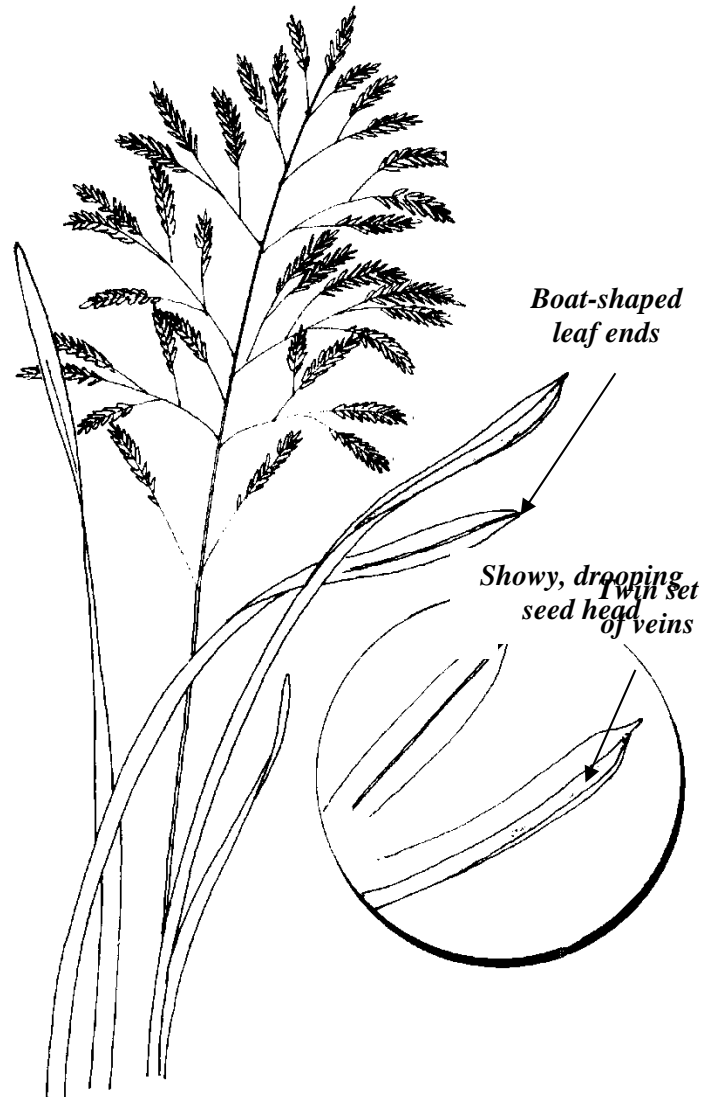
Where is it found?

Meadows, pastures, and open forests. Spreads quickly. Can be considered a weed on disturbed sites.

How is it used?

Palatable forage for cattle, horses, sheep, elk, deer, birds, and rodents. Increases in response to overgrazing and is classified as an invader. Invaders are non-native or annual or biennial species. This grass is not very drought tolerant and provides little forage outside the growing season as it does not stand up against snow. Favored by elk and deer in the spring. One of the first grasses to green-up in the spring. High food value for waterfowl. This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed.

Palatability 5 Invasiveness 3 Flammability 2



Kentucky bluegrass

smooth brome

Bromus inermis

What does it look like?

Wide, flat leaves with conspicuous W on each blade. Erect, open, loosely branched seed head. Seeds are compressed and flat, usually awnless and about 1/3 inch long. Mature seed heads have rich purplish-brown color. Grows to 3 feet tall. Sod forming perennial grass with rhizomes. Introduced from Europe.

Can be confused with:

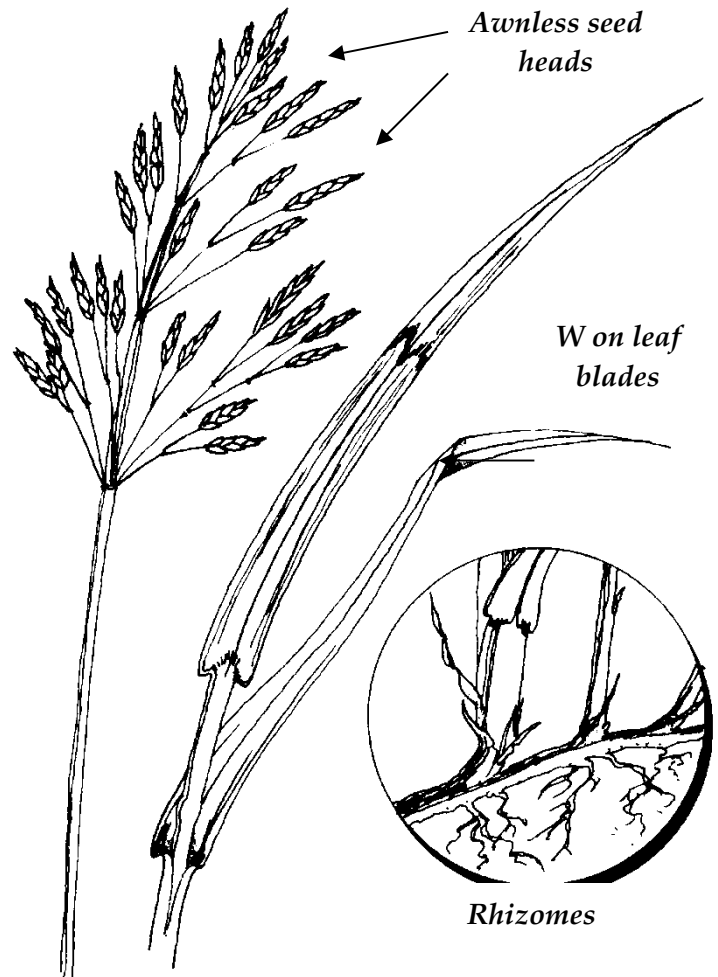
Mountain brome has similar leaves, but is very hairy. No rhizomes. No W on leaf blade. Awns on seeds.

Where is it found?

Wet areas, irrigated pastures and forest openings.

How is it used?

Palatable forage for cattle, horses, sheep, elk and deer in the spring. Makes good hay, but is limited to one cutting. Over-mature plants less desirable as forage. This grass is an invader and can take over an area, excluding all other species. Used by birds for cover. Seeds eaten by birds and rodents. Sod forming rhizomes make tree seedling establishment difficult. Not recommended for erosion control because **it may become invasive**.



Palatability 3 Invasiveness 3 Flammability 4

smooth brome

cheatgrass

Bromus tectorum

What does it look like?

Soft hairs on stem, leaves and sheaths. Seed heads on drooping branches have awns. Grows to 30 inches tall. Annual grass introduced from Europe. Considered a weed. It is an aggressive invader.

Can be confused with:

Japanese brome is very similar, not as common in central and western, but very common in eastern Montana. Seed heads do not have droopy appearance and awns are shorter.

Where is it found?

Statewide on poor soils, disturbed and overgrazed areas. Found especially on overgrazed or disturbed south and west facing slopes.

How is it used?

Cheatgrass is a very aggressive weed although it is palatable forage for livestock and wildlife before seed head emerges (a short time) then becomes undesirable. Sharp seeds can cause eye injury or jaw abscesses. Invader species on disturbed sites. It seems to be very important food, cover and nesting habitat for chukar in south central Montana and surrounding states. Canada geese graze cheatgrass heavily in fall, winter and early spring.



Matt Levin, MT State University, Flickr.com



Palatability 2 Invasiveness 5 Flammability 5

cheatgrass

Idaho fescue

Festuca idahoensis

What does it look like?

Fine narrow bluish green to green colored leaf blades are rolled, appear round. Leaves are 2–9 inches long, emerge from flattened stem base. Seed heads have short awns. Native perennial bunchgrass.

Can be confused with:

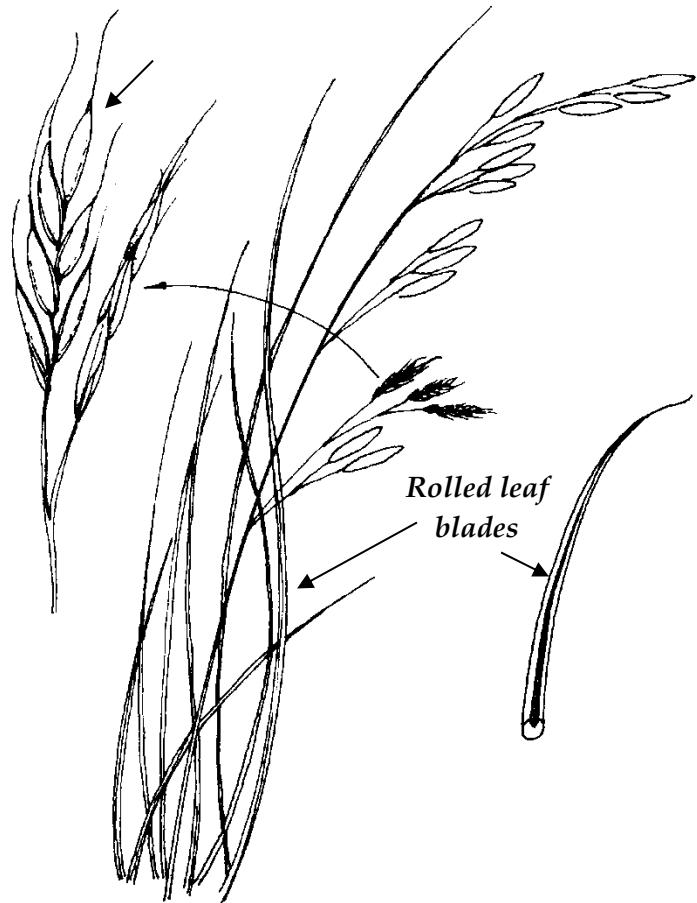
Sheep fescue, similar size, does not have a blue-green tint. Common in lawns and areas seeded for erosion control.

Where is it found?

Rangelands, rocky hillsides, and dry open forests in the foothills, mountains, and wetter valleys of Montana, and in the forested hills of southeastern Montana.

How is it used?

Palatable forage for all types of domestic livestock. It is good year-around forage for elk and is grazed in spring by deer. Increases in response to heavy grazing. It is a good erosion control grass for harvested forest areas.



Matt Lavin, Montana State University, Fflickr.com



Palatability 5 Invasiveness 1 Flammability 2

Idaho fescue

rough fescue

Festuca scabrella

What does it look like?

Individual plants form large-diameter bunches averaging 12-14 inches in diameter, sometimes as large as 2 feet. Leaf blades rolled, appear round, and are rough feeling. Leaves usually greater than 12-30 inches long, 0.03-0.08 inches in diameter. Stem bases round and purple. Develops thick mats of dead leaf stems and bases if ungrazed. Native perennial bunchgrass. Roots are fibrous.

Can be confused with:

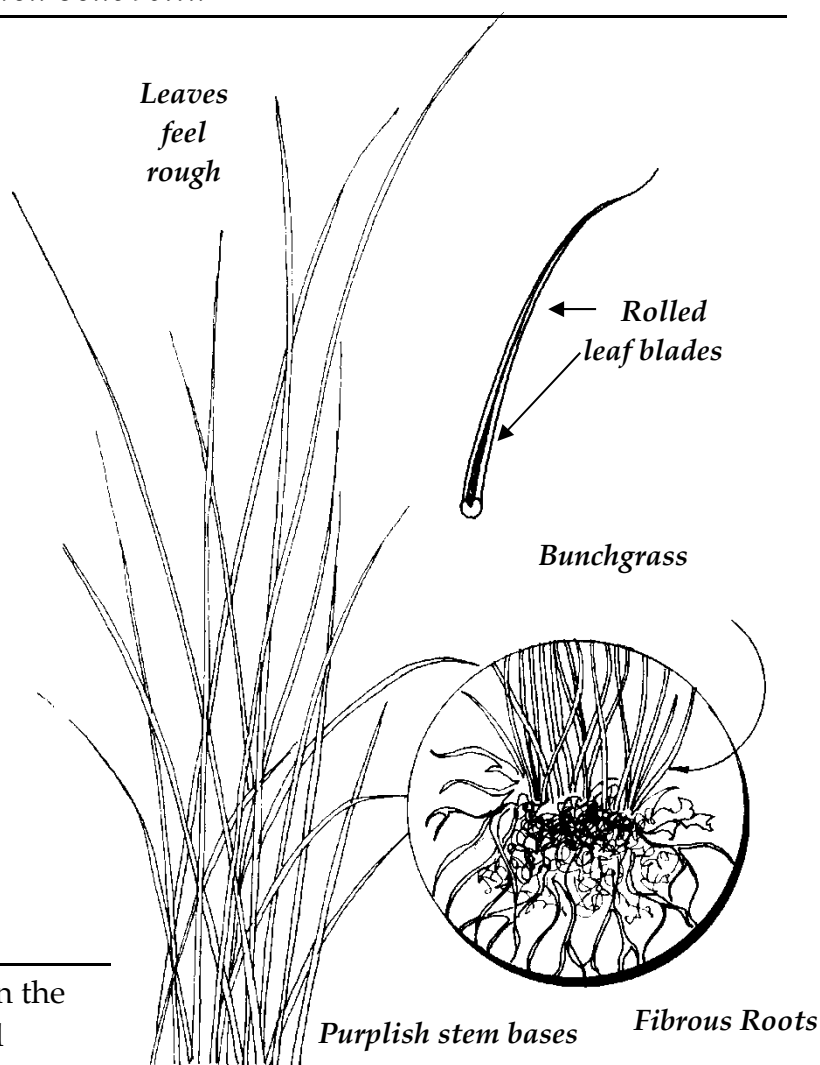
Idaho fescue has similar leaves. Rough fescue is larger, with purple stem bases, and sharp pointed leaf blades. Rough fescue seed heads are awnless or have very short awns. See Idaho fescue description on page 4.

Where is it found?

Rangelands, rocky hillsides, dry open forests in the foothills and mountains of western and central Montana. It is not found south of a line running roughly between Judith Gap and Butte, although there are a couple of outliers.

How is it used?

Rough fescue is highly palatable to livestock and classified as a decreaser, which means it decreases with heavy grazing pressure. Preferred forage for cattle and horses and good for sheep and wildlife during all growth stages. Desirable forage for sheep and deer. Important forage on elk winter range. All growth stages grazed. It is valuable for winter grazing because it retains much of its protein and palatability.



Matt Lavin, MT State University, flickr.com



Palatability 5 Invasiveness 1 Flammability 3

rough fescue

orchardgrass

Dactylis glomerata

What does it look like?

Leaves long, flat, sharply pointed, with slight V shaped cross section. Seed head branched with tufted appearance with the lowest seed head lower than the rest, in resemblance of a thumb. Grows to 3 1/2 feet tall. Lower stem is flat. Perennial bunchgrass. Introduced from Europe and Asia.

Can be confused with:

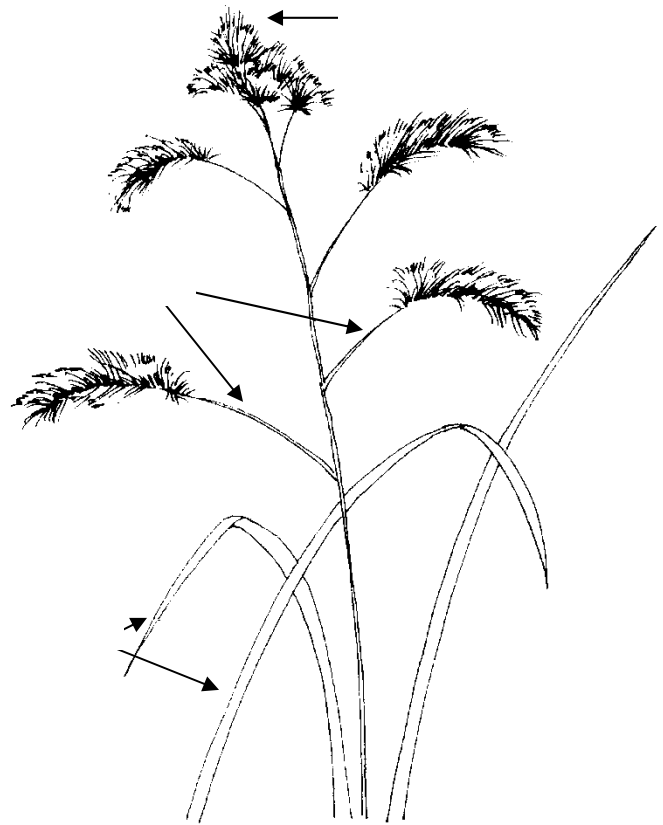
Nothing else.

Where is it found?

Moist rangelands and forests. Shade tolerant, does well in moist shaded areas. Begins growth in early spring.

How is it used?

Very palatable forage for elk and deer and all classes of livestock. Seeded following timber harvests or wildfire to improve forage values and to control erosion and reduce weeds in certain situations. Because of its dense network of roots, orchard grass provides good erosion control



Palatability 5 Invasiveness 2 Flammability 3

orchardgrass

pinegrass

Calamagrostis rubescens



What does it look like?

Stem is round and reddish-purple at the base. Small tuft of hair where leaf meets main stem. Soft, flat, drooping leaves with shiny upper surface. Grows to 12 inches tall. Rarely flowers and produces seed unless in full sunlight. Native grass with rhizomes.



Can be confused with:

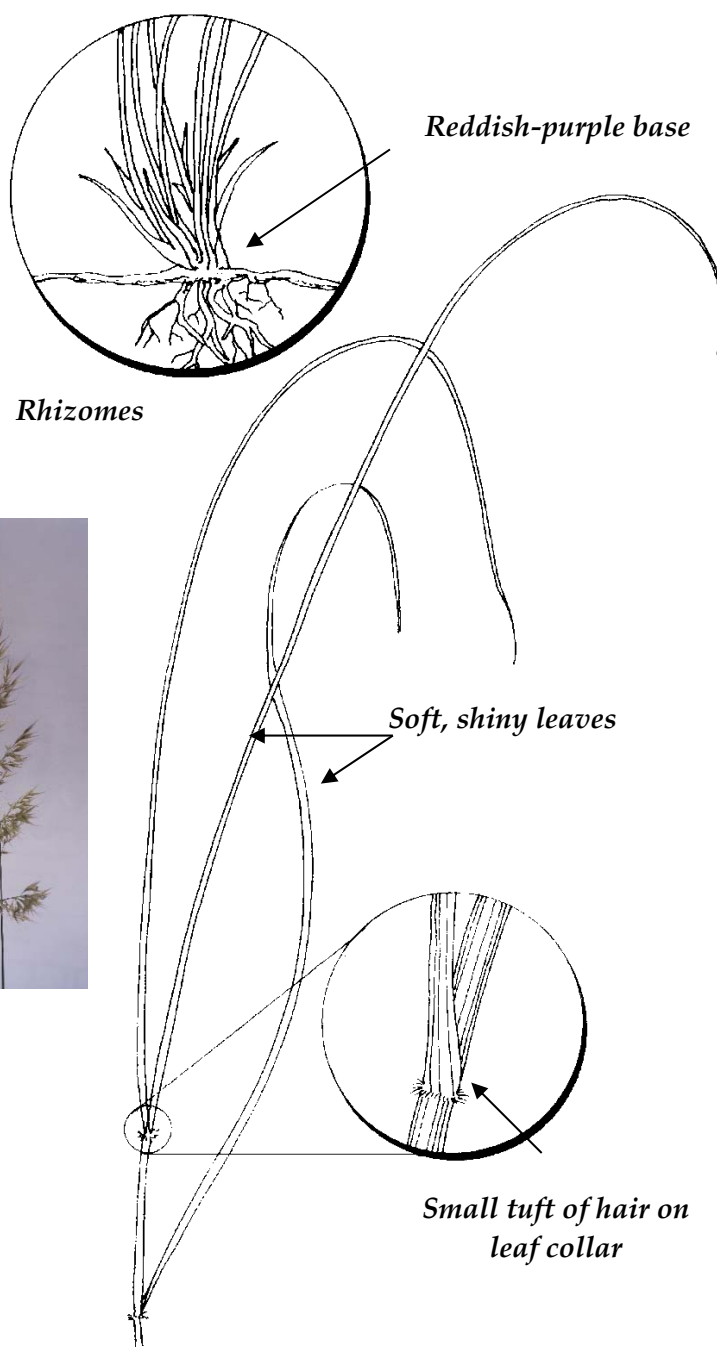
Elk sedge, found in similar habitat. Stems triangular in cross-section. See elk sedge description on page 36.

Where is it found?

Forests with well-drained soils.

How is it used?

Moderately palatable forage for cattle and horses. High silica content so cow's teeth will wear down prematurely when grazing primarily pinegrass. Poor to fair forage for sheep, elk and deer. Highest forage use in spring. Classified as an increaser and increases in response to heavy grazing. Sod forming rhizomes make tree seedling establishment difficult. Valuable for watershed protection. Drought resistant.



Palatability 3 Invasiveness 2 Flammability 1

redtop

Agrostis gigantea

What does it look like?

Leaves flat at base, narrow, pointed ends. Stem round, usually purple or red. Seed head pyramid shaped, reddish color. Grows to 2-4 feet tall. Perennial grass with rhizomes. Introduced from Europe.

Can be confused with:

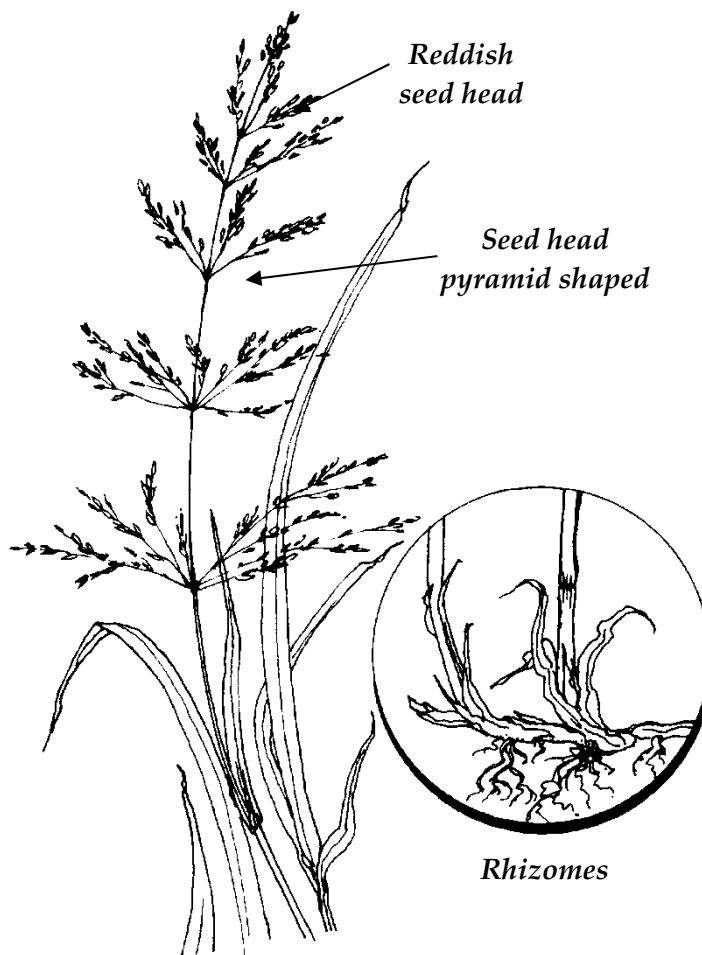
Kentucky bluegrass seed heads have a similar shape but generally do not have the *Christmas tree* appearance. See Kentucky bluegrass description on page 1.

Where is it found?

Moist areas—often along streams or ponds. Adapted to wet, acid soils. Can grow under water for short periods.

How is it used?

Palatable forage for cattle, horses, elk and deer. Moderately palatable forage for sheep. Cover for upland game birds. Rhizomes can form dense mats. Planted in pasture, hay and lawns, but not preferred for any of these uses.



Dave Powell, USDA Forest Service (retired), Bugwood.org



Palatability 5 Invasiveness 3 Flammability 2

redtop

timothy

Phleum pratense

What does it look like?

Leaf blades flat, taper to sharp point. Cylindrical seed head several times longer than wide. Swollen stem bases look like small bulb or onion. Grows to 3 1/2 feet tall. Short-lived perennial bunchgrass. Introduced from Europe.

Can be confused with:

Alpine timothy; a smaller native grass. Grows from 6–24 inches tall. Shorter seed head and no swollen base.

Where is it found?

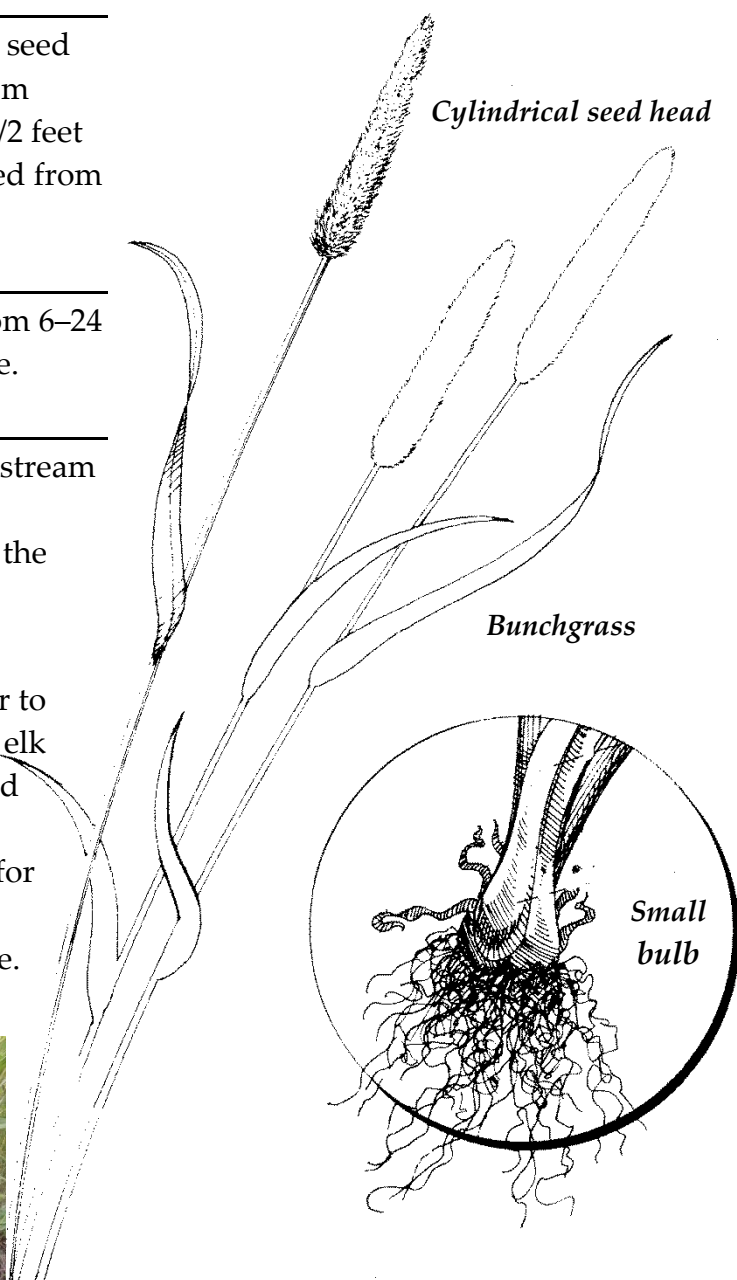
Irrigated areas, moist meadows, forest openings, stream banks, swales, snowdrift areas, and along roads, particularly in the foothill and mountain areas of the state.

How is it used?

Palatable forage for cattle, horses, and sheep prior to the seed head appearing. Somewhat desirable to elk and mule deer, mainly in spring. This grass is an invader and it readily moves into overgrazed or disturbed areas, including logged areas. Planted for hay. Bears eat the bulbs. High food value for waterfowl. Cold tolerant. Poor drought tolerance.



Matt Lavin, MT State University, Flickr.com



Palatability 3 Invasiveness 3 Flammability 4

Timothy

bluebunch wheatgrass

Agropyron spicatum

What does it look like?

Stem is slender, smooth, leaves often branch off at 45° angles. Leaves often have small hairs on upper surface. Seed head is a solitary spike (flowers and seeds born net to main stem, not on branches). Many long awns in each seed cluster. Stands erect. Grows to 3 feet tall. Native perennial bunchgrass. No rhizomes.

Can be confused with:

This large grass family has many similar species. See Western wheatgrass description on page 11.

Where is it found?

Dry grasslands and open forests throughout Montana.

How is it used?

Palatable forage for cattle, horses, sheep, elk and deer, particularly in the spring and summer. Good winter forage as it stands up better than most grasses under snow and provides all the energy wildlife and livestock need, regardless of season. Decreases in response to heavy grazing. Best adapted grass to most of Montana's growing conditions. Healthy bluebunch wheatgrass is well adapted to drought and resists weed invasion. Montana's state grass.



Palatability 5 Invasiveness 1 Flammability 3

bluebunch wheatgrass

western wheatgrass

Agropyron smithii

also called bluejoint wheatgrass

Matt Levin, MT State University, Flickr.com



What does it look like?

Stiff blue-green leaves taper to sharp point, rough on upper surface. Seed head is a solitary spike. Grows to 3 feet tall. Native, perennial grass with rhizomes.

Can be confused with:

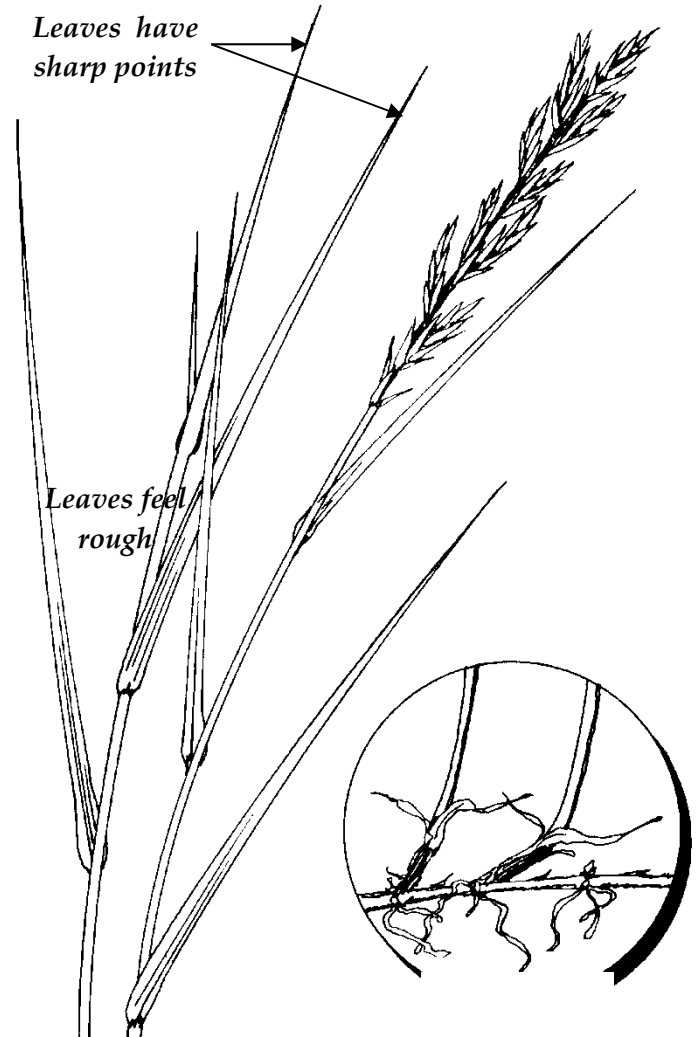
Western wheatgrass is most commonly confused with the native thickspike and streambank wheatgrass as well as the non-native quackgrass. Intermediate and pubescent wheatgrasses are much larger sod-forming grasses (bunchgrass appearance under most of Montana's dry conditions) with blunt glumes.

Where is it found?

Primarily east of the Continental Divide in a wide variety of conditions. Best adapted to overflow and sub-irrigated sites.

How is it used?

Palatable forage for cattle, horses and sheep. Moderately palatable forage for elk and deer. Good winter forage and is planted for hay in eastern Montana. Tolerant to grazing pressure and drought. Classified as an increaser under heavy grazing pressure. Provides cover for small mammals and birds. High food value for waterfowl. Good for erosion control. Grows in the summer when there is precipitation, prefers overflow and wet sites where it grows all summer.



Palatability 4 Invasiveness 2 Flammability 4

western wheatgrass

sulphur cinquefoil

Potentilla recta

USDA Agricultural Research Service, USDA
Agricultural Research Service, Bugwood.org



UGA0023061

What does it look like?

Numerous leaves on stem, but few from base of plant. Each leaf composed of 5–7 smaller leaflets. Upper and lower leaf surfaces covered with sparse, coarse, stiff hairs. Stem has 1/4-inch-long hairs projecting outward at right angles. Flowers pale yellow with five petals. Massive woody root. Grows to 2 feet tall. A long-lived perennial forb. Introduced from Eurasia. Considered a noxious weed.

Can be confused with:

Northwest cinquefoil, a native plant that grows throughout the state. Has few stem leaves and mostly basal leaves. Hairs on stem are shorter and not as obvious. No hairs on upper surface of leaves.

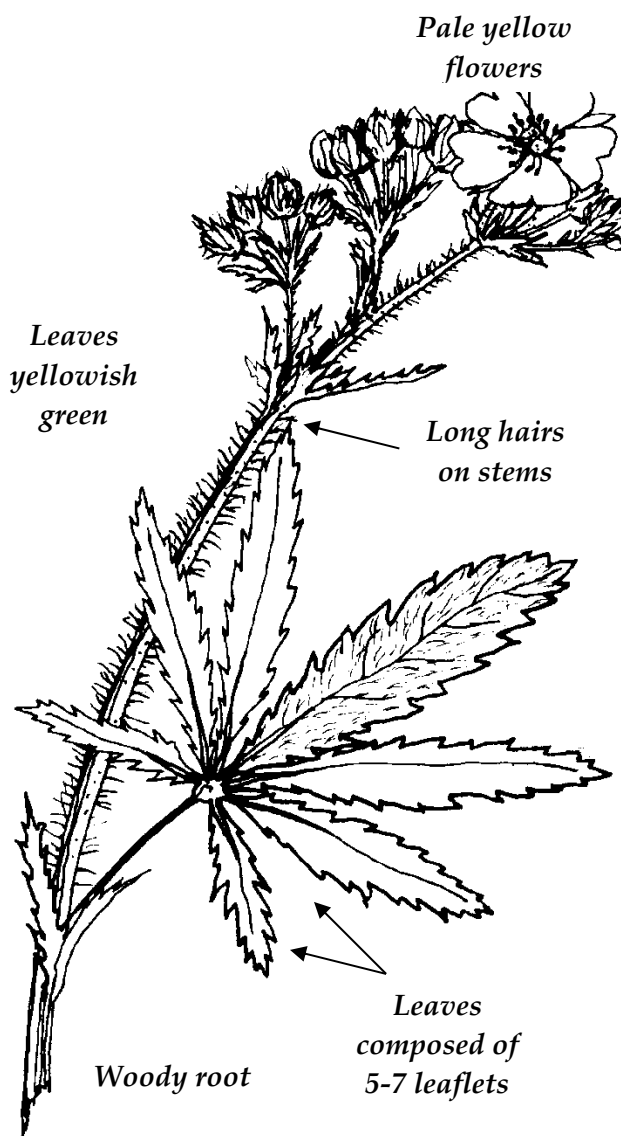
Where is it found?

Open grasslands, shrubby areas, open forest and harvested areas. Invades disturbed areas, particularly in the foothill and mountain areas of Montana.

How is it used?

Non-consumed forage for livestock and wildlife. Less palatable than most other noxious weeds in Montana and is classified as an invader.

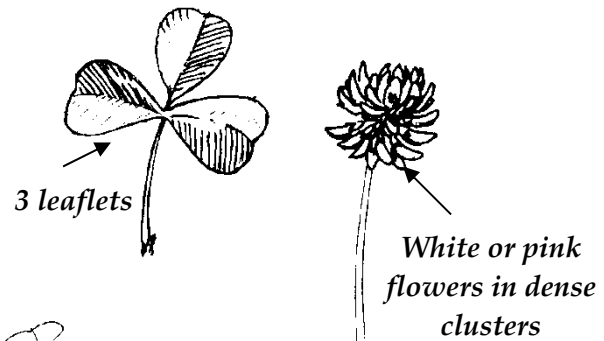
Palatability 1 Invasiveness 4 Flammability 2



sulphur cinquefoil

clover

Trifolium spp



What does it look like?

There are several native and introduced clovers. Each clover leaf is composed of three leaflets. Top of leaflet marked with lighter green "V" on some species. White clover and alsike clover are two important forest clovers. White clover grows closer to the ground (creeping). Alsike clover is more upright with a pinkish flower.

Can be confused with:

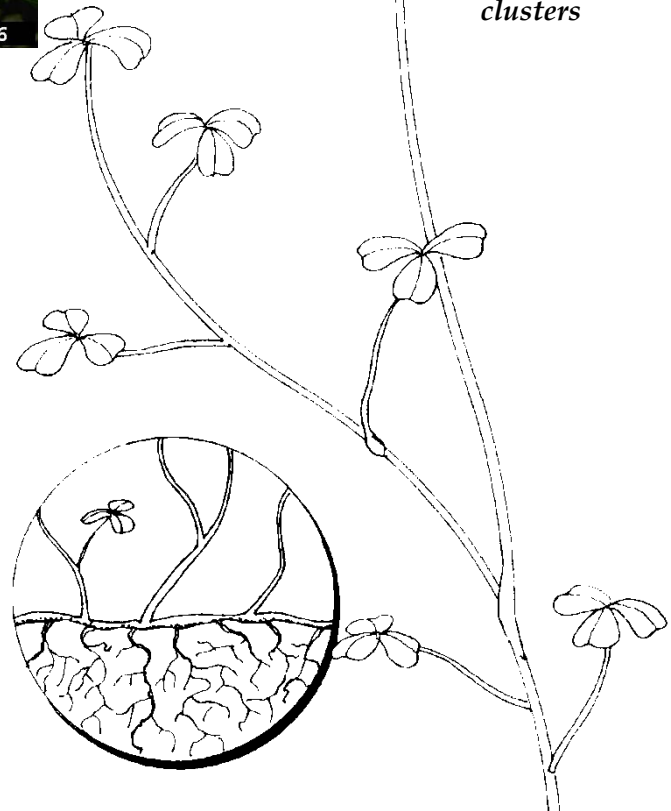
The large clover family has many similar species. Yellow clover and white Dutch clover are common exotics.

Where is it found?

Along forest roads, in forested openings, and near meadows and streams.

How is it used?

Palatable forage for cattle, horses, sheep, elk and deer. Some species are increasers in response to heavy grazing. Good forage for grouse and black bear. Small hard seeds important food for many birds. Used for honey production.



Rhizomes

Palatability 5 Invasiveness 1 Flammability 1

clover

sticky geranium

Geranium viscosissimum

What does it look like?

Hairy stems and leaves. Plants loosely branched, with deeply dissected leaves. Flowers have five petals and are pink to purple, with dark veins. Grows to 3 feet tall. Native perennial forb.

Can be confused with:

Other geraniums. Tall larkspur in the vegetative stage, but differs in that the larkspur has a hollow stem and no hair.

Where is it found?

Grows in the company of shrubs or in open woods. Prefers a moist, gravelly or sandy loam soil.

How is it used?

Palatable forage for elk and deer. Moderately palatable forage for cattle, horses and sheep. Decreases in response to heavy grazing. Major food for elk and deer in spring and summer.



Rhizomes



Palatability 4 Invasiveness 1 Flammability 1

spotted knapweed

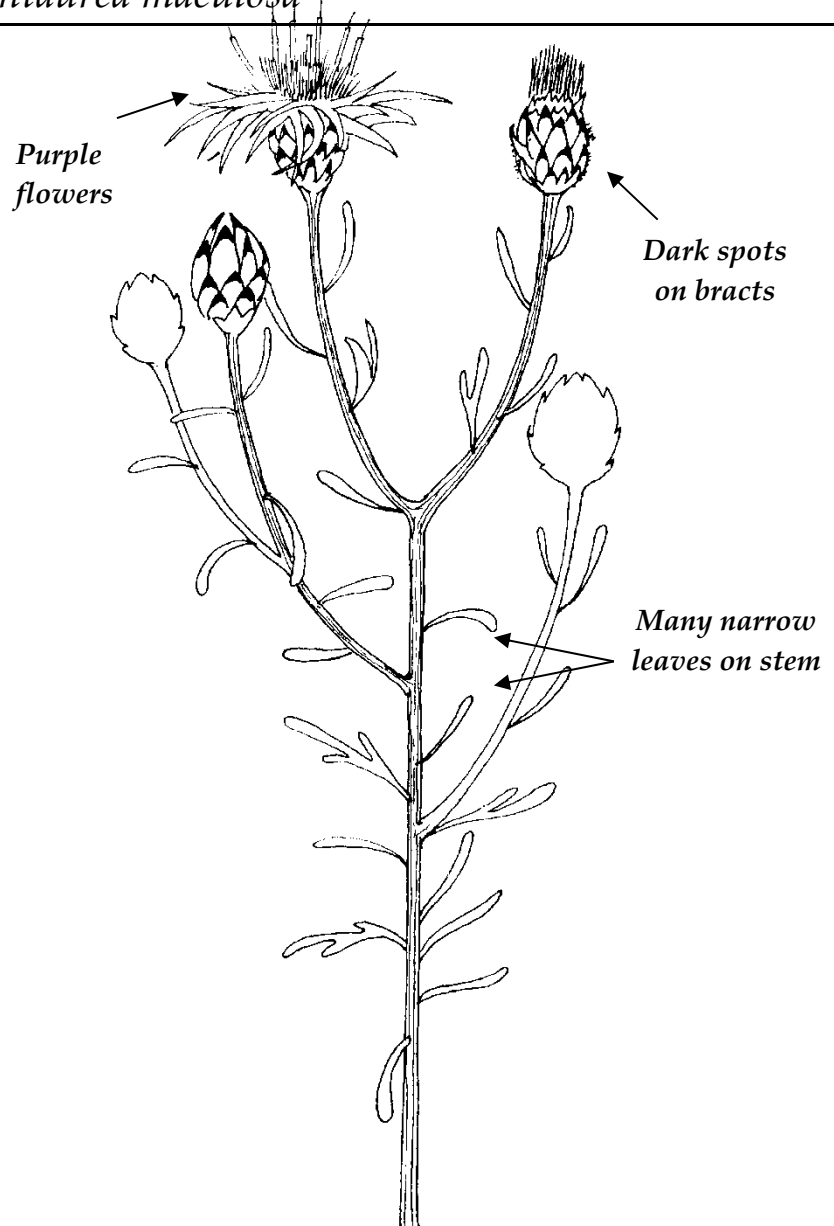
Centaurea maculosa

What does it look like?

Numerous leaves along stem. Flowers pinkish-purple, thistle-like in appearance. Dark spots on bracts at flower base. Very deep tap root. Blooms June through October. Grows 1–3 feet tall. Biennial or short-lived perennial noxious weed. Introduced from Russia.

Can be confused with:

Russian knapweed has similar flower, no dark spots on bracts, and is strongly rhizomatous. Diffuse knapweed similar flower which may be pink, but usually white. Seed head bracts end as sharp, rigid spines. Has a taproot. Both are noxious weeds.



Where is it found?

Fields, pastures, roadsides, forest openings and disturbed areas.

How is it used?

Undesirable forage for cattle, horses, sheep, elk and deer. Sheep will use as forage before it blooms. Number one noxious weed problem on rangeland in western Montana.

Palatability 1 Invasiveness 5 Flammability 2

spotted knapweed

leafy spurge

Euphorbia esula

What does it look like?

Stem branches near the top. Many alternate, long, narrow leaves.

Inconspicuous flowers surrounded by large, heart-shaped floral leaves which turn yellowish-green near maturity.

Has a milky sap. A perennial noxious weed. Introduced from Eurasia.

Extensive, deep root system with rhizomes.

Can be confused with:

There are a number of other introduced spurges that look similar when young.

Where is it found?

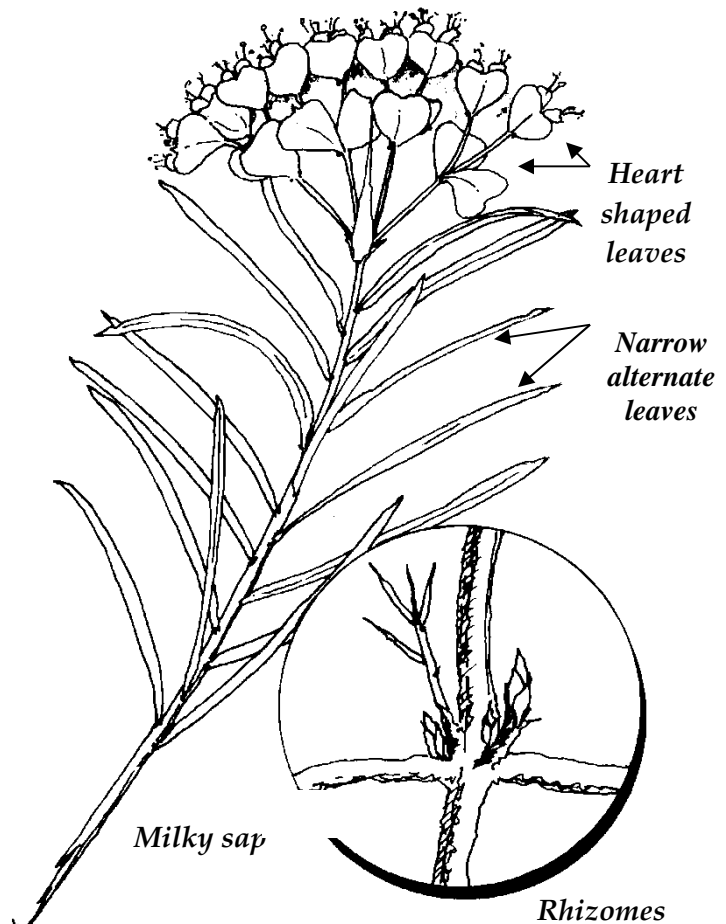
Roadsides, cultivated fields, pastures, and open forests. Invader on disturbed sites.

How is it used?

Undesirable forage for cattle, sheep, elk and deer. Sheep will eat it and tolerate spurge. Seeds may remain viable in soil for eight years. Reported to cause severe irritation of mouth and digestive tract in cattle, may result in death.

Mildly poisonous to people;

Its sap can cause skin irritation, inflammation, and blisters. Difficult to control with herbicides.



Palatability 1 Invasiveness 5 Flammability 1

leafy spurge

Canada thistle

Cirsium arvense

What does it look like?

Spiny leaves and stems. Early spring growth appears as a rosette. Flowers are pinkish-purple, occasionally white. Grows to 4 feet tall. Deep, extensive horizontal roots. A perennial noxious weed with rhizomes. Introduced from Eurasia.

Can be confused with:

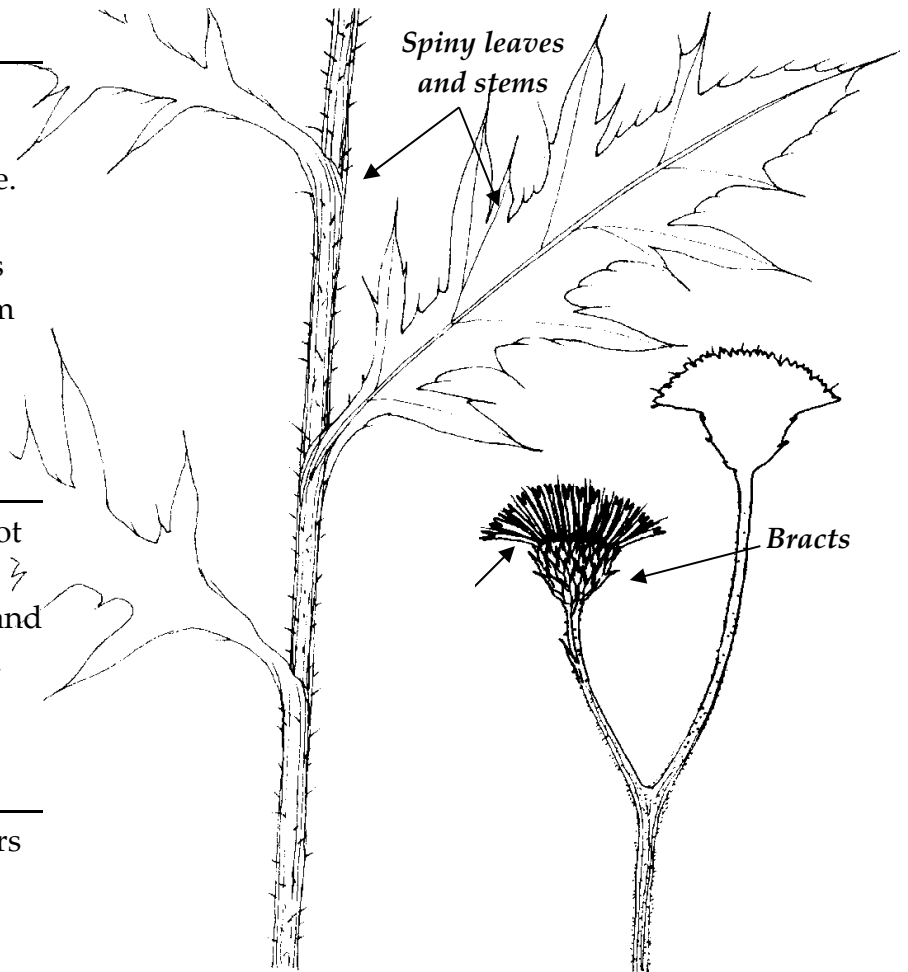
Other thistles. Canada thistle does not have spines on bracts at base of the flower. Other thistles are tap rooted and do not spread by underground stems.

Where is it found?

Fields, pastures, open forests. Appears quickly on disturbed sites. Can be a problem on recently harvested areas. Prefers more fertile soils.

How is it used?

Undesirable forage for livestock and wildlife. Seeds eaten by birds and small mammals. Cultivating and plowing spreads rootstocks which will sprout. Difficult to control with herbicides.



Palatability 1 Invasiveness 5 Flammability 1

Canada thistle

sitka alder

Alnus sinuata

What does it look like?

A native shrub or small tree. Alternate, serrated leaves with very pronounced veins. Persistent seed structures, called catkins, look like miniature pine cones. Bark is reddish-brown when young, gray when older. Smooth, pointed buds and winged fruit (seeds). Forms dense thickets.

Can be confused with:

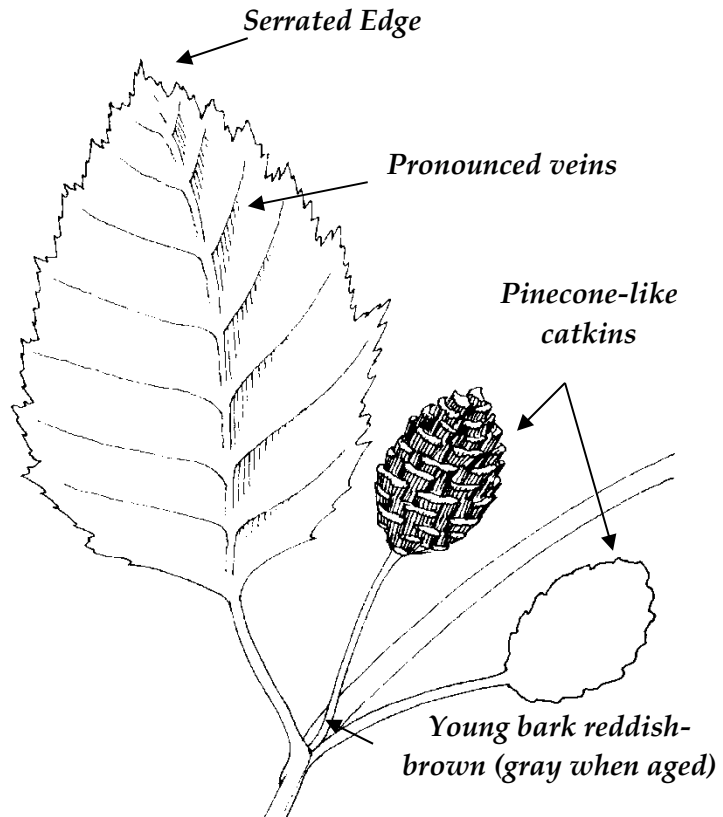
Water birch has a similar leaf. Bark of water birch is bronze colored with small, brown, horizontal slashes. Mountain alder has round tipped buds with small hairs and a wingless fruit (seed).

Where is it found?

In dense thickets, near streams, seeps, and moist slopes in western and central Montana. Common pioneer species.

How is it used?

Undesirable forage for livestock and wildlife. Good hiding cover for wildlife. Forms extensive thickets following disturbance. Can inhibit the establishment of tree regeneration. Nitrogen fixing bacteria on its roots promotes soil development.



Palatability 1 Invasiveness 2 Flammability 1

sitka alder

antelope bitterbrush

Purshia tridentata

What does it look like?

A native evergreen shrub. Leaves have three lobes or *teeth*, are clustered on the stem, and have white-woolly texture underneath. Some leaves may drop in the fall. Older stems gray to brown. Bright yellow flowers in the spring. Generally waist high, can grow to 9 feet tall.

Can be confused with:

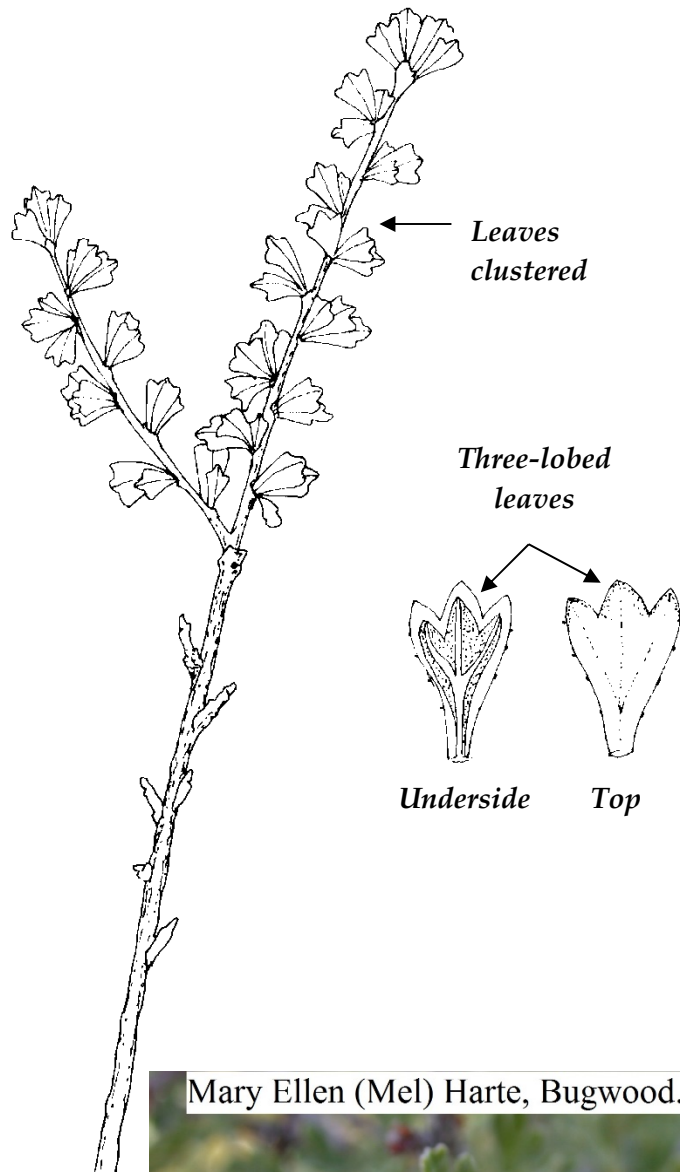
Sagebrush has similar leaves. Bitterbrush lacks pungent sage odor when leaves are crushed.

Where is it found?

Dry plains, foothills, and dry open forests in western, southwestern, and central Montana.

How is it used?

Moderately palatable forage for cattle, sheep, elk, deer, antelope and small mammals. Elk and deer love bitterbrush, it is a highly preferred winter forage. Decreases in response to heavy grazing. Prostrate forms of bitterbrush in Montana have been found to sprout about 50% of the time after a fires. Upright forms tend not to sprout. Excellent drought resistance.



Mary Ellen (Mel) Harte, Bugwood.org

Palatability 4 Invasiveness 1 Flammability 3

bitterbrush

russet buffaloberry

Shepherdia canadensis

What does it look like?

A native perennial shrub. Leaves are opposite, dull green on upper surface and silvery with rusty spots underneath. Small, yellow flower clusters bloom in early spring. Bitter tasting red fruit. Young stems light brown to orange-brown. Usually found in forest areas as individual plants.

Can be confused with:

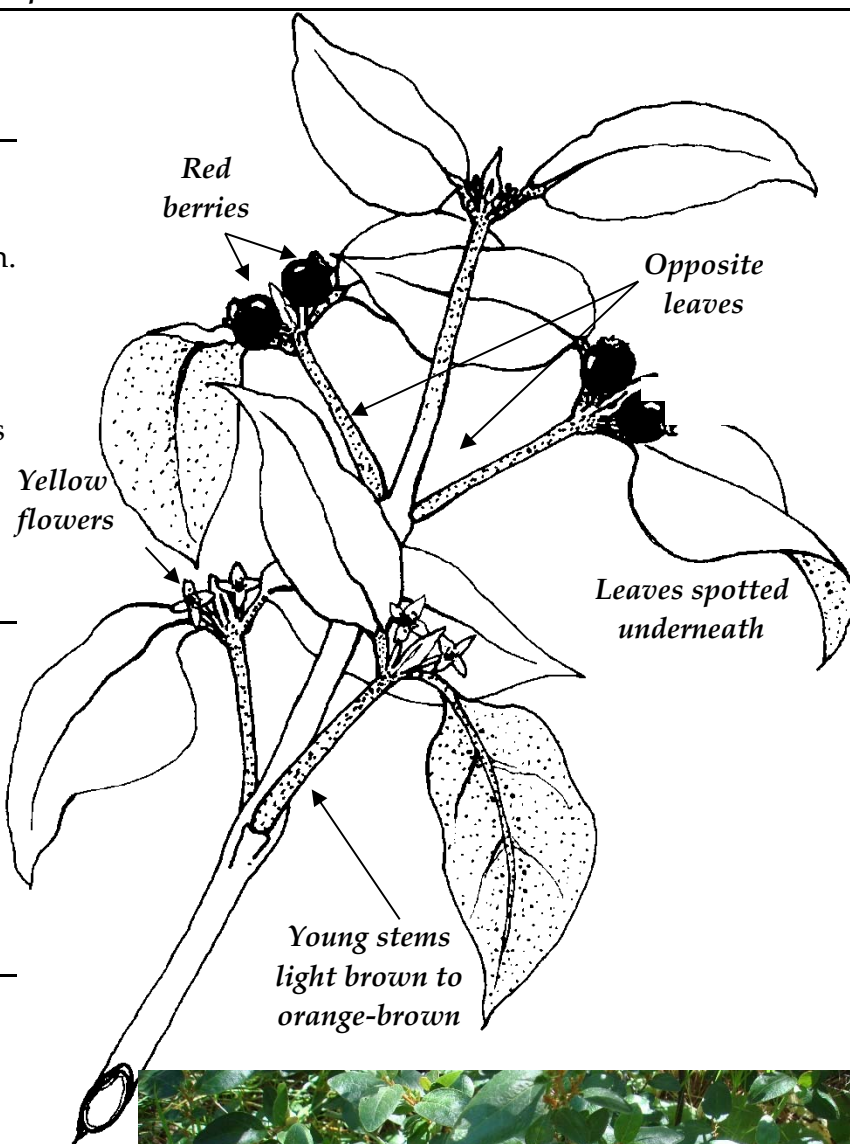
Another buffaloberry; *Shepherdia argentea*, a tall thorny shrub, with narrow silvery colored leaves, often grows in thickets usually found in riparian areas.

Where is it found?

Dry slopes and open wooded areas.

How is it used?

Moderately palatable forage for sheep before frost. Undesirable forage for cattle, horses, elk and deer. Berries consumed by birds, small mammals, and bears. Good cover for birds. Berries eaten by early Native Americans but can cause diarrhea. Consumption not recommended.



Palatability 2 Invasiveness 1 Flammability 2

russet buffaloberry

shiny-leaf ceanothus

Ceanothus velutinus

also called snowbrush, tobaccobrush, mountain balm

What does it look like?

A native evergreen, perennial shrub. Leaves thick, leathery, three main veins, have sweet odor when crushed. Upper leaf surface shiny dark green, appears varnished. Lower leaf surface dull, feels like velvet. Flowers are white. Generally waist high, grows to 5 feet tall.

Can be confused with?

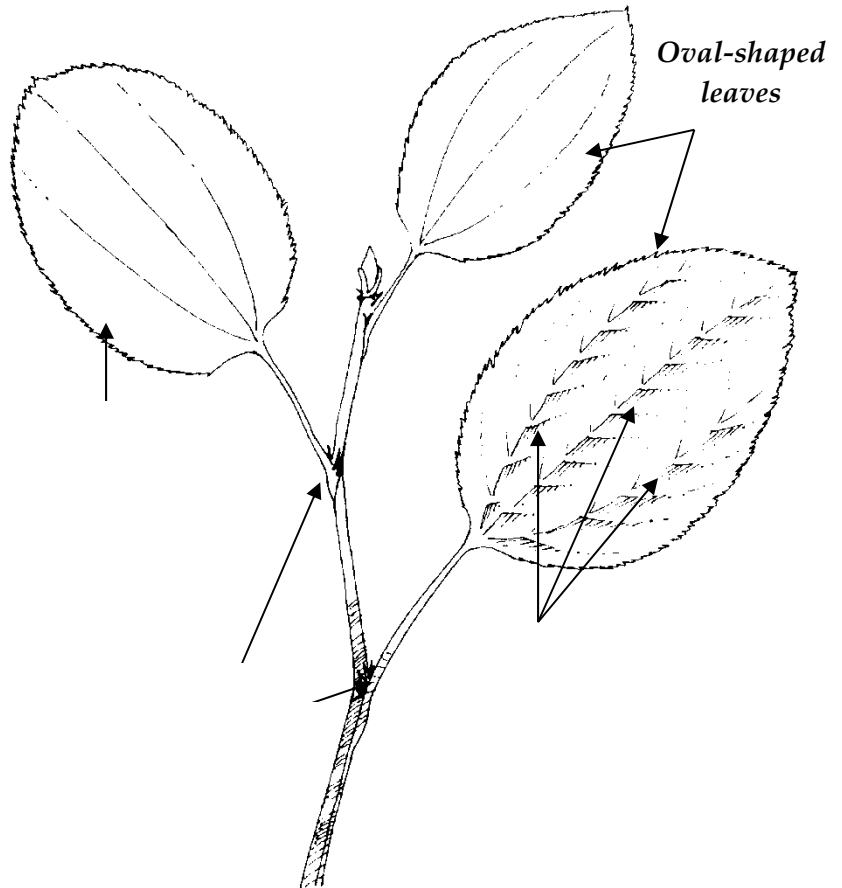
Nothing else.

Where is it found?

On dry slopes and in mountainous areas which have previously burned. Seed germination stimulated by fire. Forms thickets in burned or logged areas.

How is it used?

Undesirable forage for cattle and sheep. Moderately palatable forage for elk and deer. Thickets provide hiding cover for small mammals, bedding areas for mule deer and elk. Nitrogen-fixing bacteria on roots, promotes soil development. Early Native Americans used leaves as tobacco.



Palatability 2 Invasiveness 2 Flammability 3

shiny-leaf ceanothus

chokecherry

Prunus virginiana

What does it look like?

A native deciduous shrub. Brilliant green leaves have characteristic pointed tip, sharp serrations on margins. Two small glands on leaf stem. Flowers drooping and white. Fruit dark red to purple-black, contains a single pit. Twigs are reddish-brown. Bark gray to black with small white slashes. Grows as a tall shrub or small tree up to 25 feet.

Can be confused with:

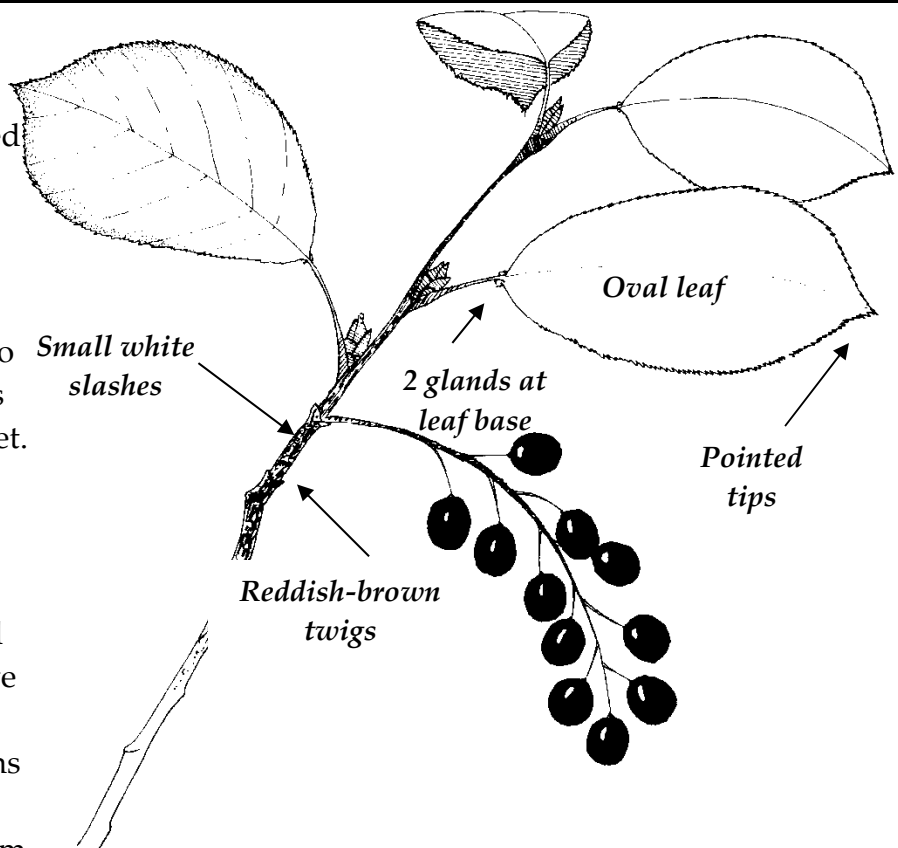
The cherry family has many similar species. Chokecherry is most often confused with serviceberry, plum, and hawthorn. Hawthorns and plums have thorns. Serviceberry does not have a pointed leaf tip and has more serrations at the tip of the leaf (See page 32). Chokecherry, plum, and hawthorn form dense thickets. Service berry does not.

Where is it found?

On dry hills, in forests, in swales, and near streams. One of the most widely distributed shrubs in North America.

How is it used?

Palatable forage for elk and deer.
Desirable forage for cattle and sheep.
Moderately palatable forage for horses.
Foliage can be toxic to livestock when consumed in sufficient quantities after drought or freezing temperatures. Good hiding cover for birds and deer. Berries important food source for birds and small mammals. Berries used to make wine, syrup, jelly and jam. Pits reported to be poisonous if eaten.



Pic: CAP

Palatability 4 Invasiveness 1 Flammability 1

chokecherry

red-osier dogwood

Cornus stolonifera

What does it look like?

A native shrub. Stems dark red, very limber and strong. Branch tips often lodge in the ground and grow roots. Opposite leaves, pronounced veins, pointed at the tip. White flowers grouped in flat-topped clusters. Berries white or blue. Grows to 15 feet in height.

Can be confused with:

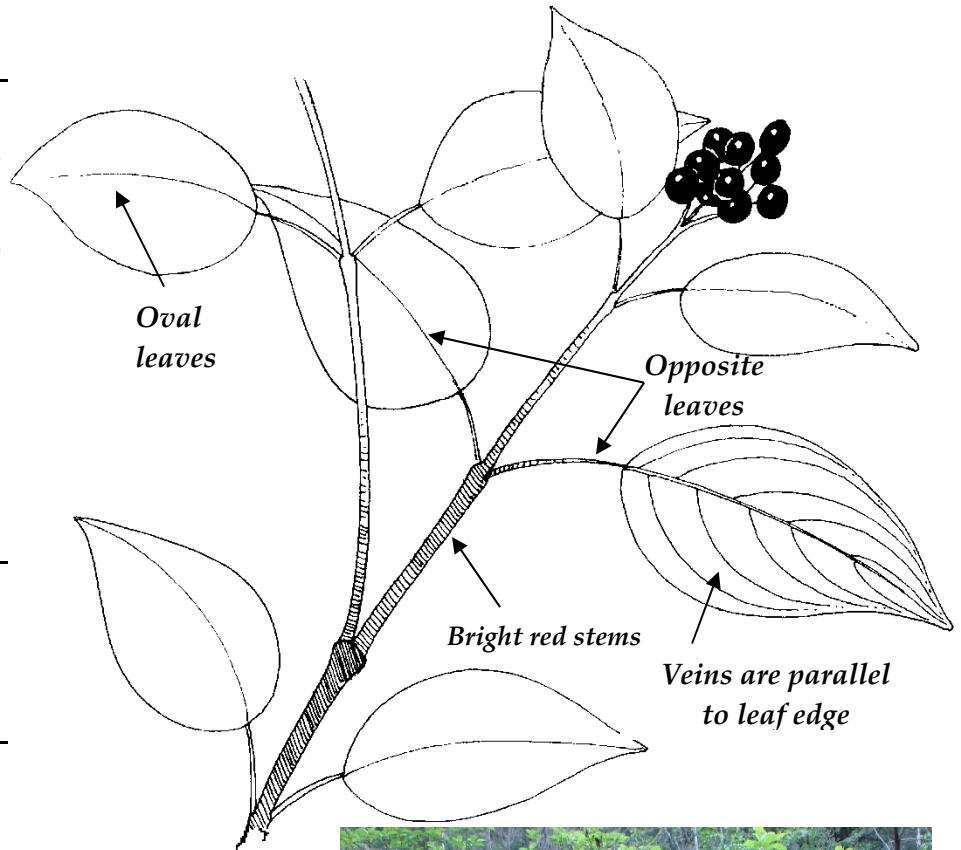
Nothing else.

Where is it found?

Along creek banks and other wet areas. Found across much of North America.

How is it used?

Palatable forage for elk, deer, and moose. Moderately palatable forage for cattle and sheep. Undesirable forage for horses. Berries eaten by birds during winter. Planted to stabilize stream banks. Stem wood used by early Native Americans to make bows. Branches collected to make baskets.



Palatability 3 Invasiveness 1 Flammability 1

red-osier dogwood

blue elderberry

Sambucus cerulea

What does it look like?

A tall, many-stemmed, native shrub. Young stems glossy brown, older stems gray. Pale green leaf composed of 5–9 smaller leaflets. Leaflets serrated and opposite. Dusty-blue berries grow in grape-like clusters. Berries have whitish, waxy coating.

Can be confused with:

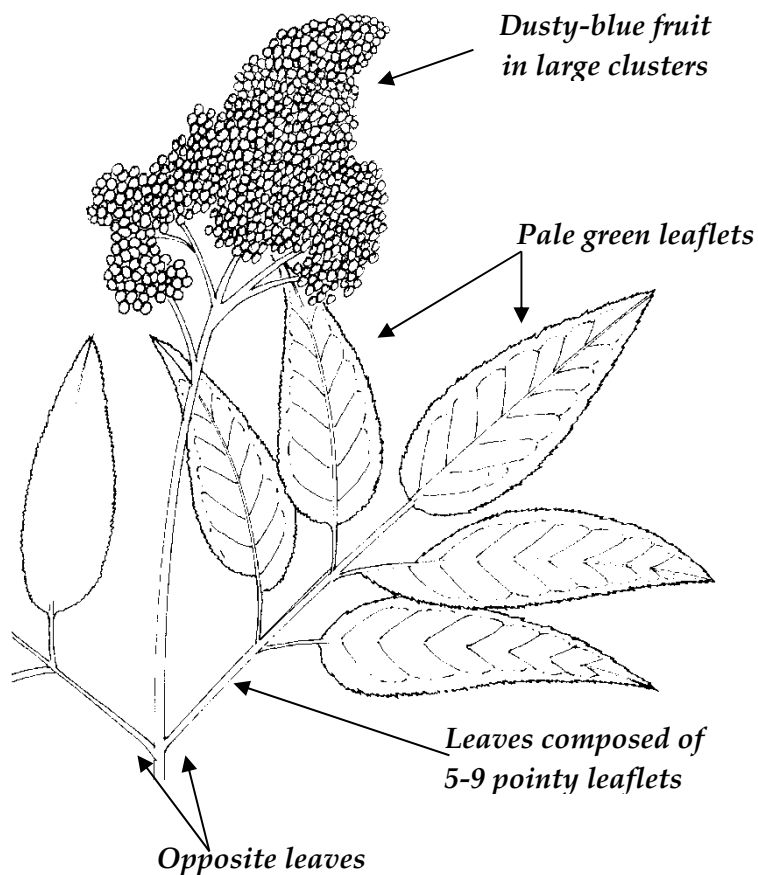
Black elderberry, has a black fruit. Young stems are gray-brown, not glossy.

Where is it found?

Common along streams and in forested areas.

How is it used?

Palatable forage for cattle, sheep, elk and deer. Many wildlife species eat the berries. Berries used to make wine and jelly.



Dave Powell, USDA Forest Service (retired), Bugwood.org



UGA1208060

Palatability 3 Invasiveness 1 Flammability 1

blue elderberry

mountain gooseberry

Ribes montigenum

What does it look like?

A native low-spreading shrub. Leaves irregularly lobed, hairy. Spines on stem and leaves. Flower greenish-white to pink, tube-shaped. Red berries.

Can be confused with:

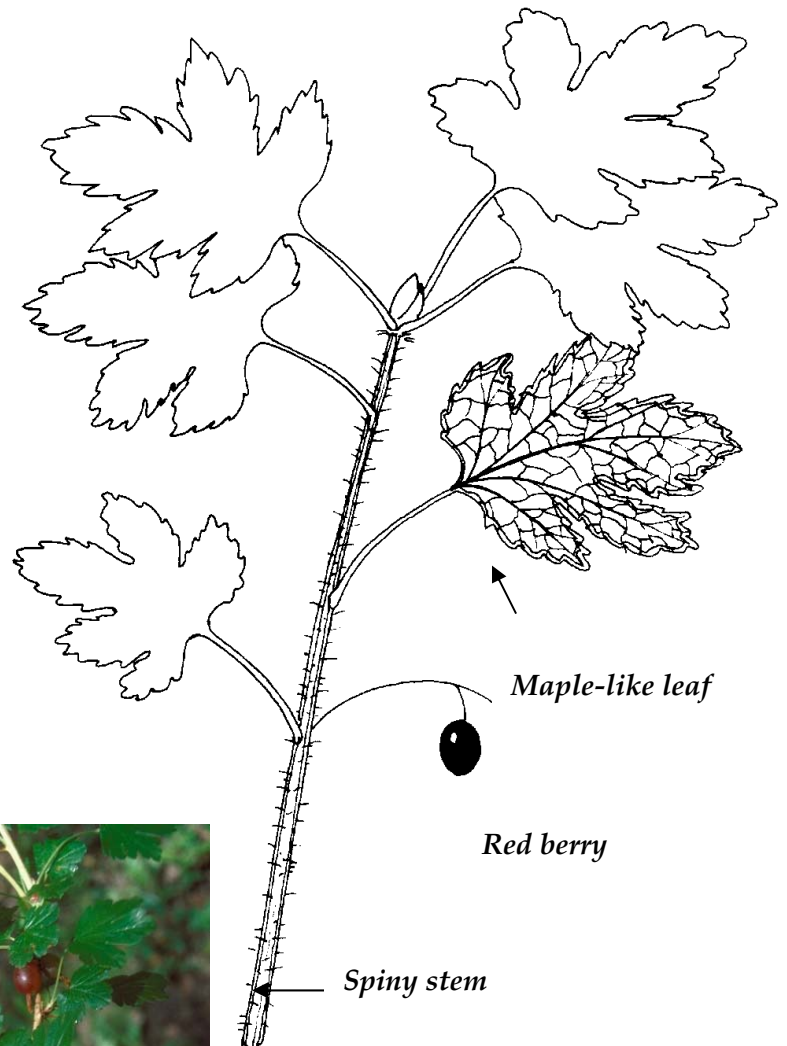
Many *Ribes* species (currants and gooseberries) have a similar appearance however gooseberries have spines and currants do not.

Where is it found?

In subalpine areas. Other *Ribes* species are found in open, dry, rocky areas and in moist areas.

How is it used?

Undesirable forage for cattle, horses, sheep, elk and deer. Birds eat berries. *Ribes* genus is alternate host for white pine blister rust fungus that infects five-needle pines (whitebark, limber, and western white pine).



Palatability 2 Invasiveness 1 Flammability 2

mountain gooseberry

black hawthorn

Crataegus douglasii

also called Douglas hawthorn

What does it look like?

A native shrub or small tree. Leaves wedge-shaped at the base, *saw-toothed* at the tips. Thorns up to 1 inch long. Fruit dark purple to black, with large pit.

Can be confused with:

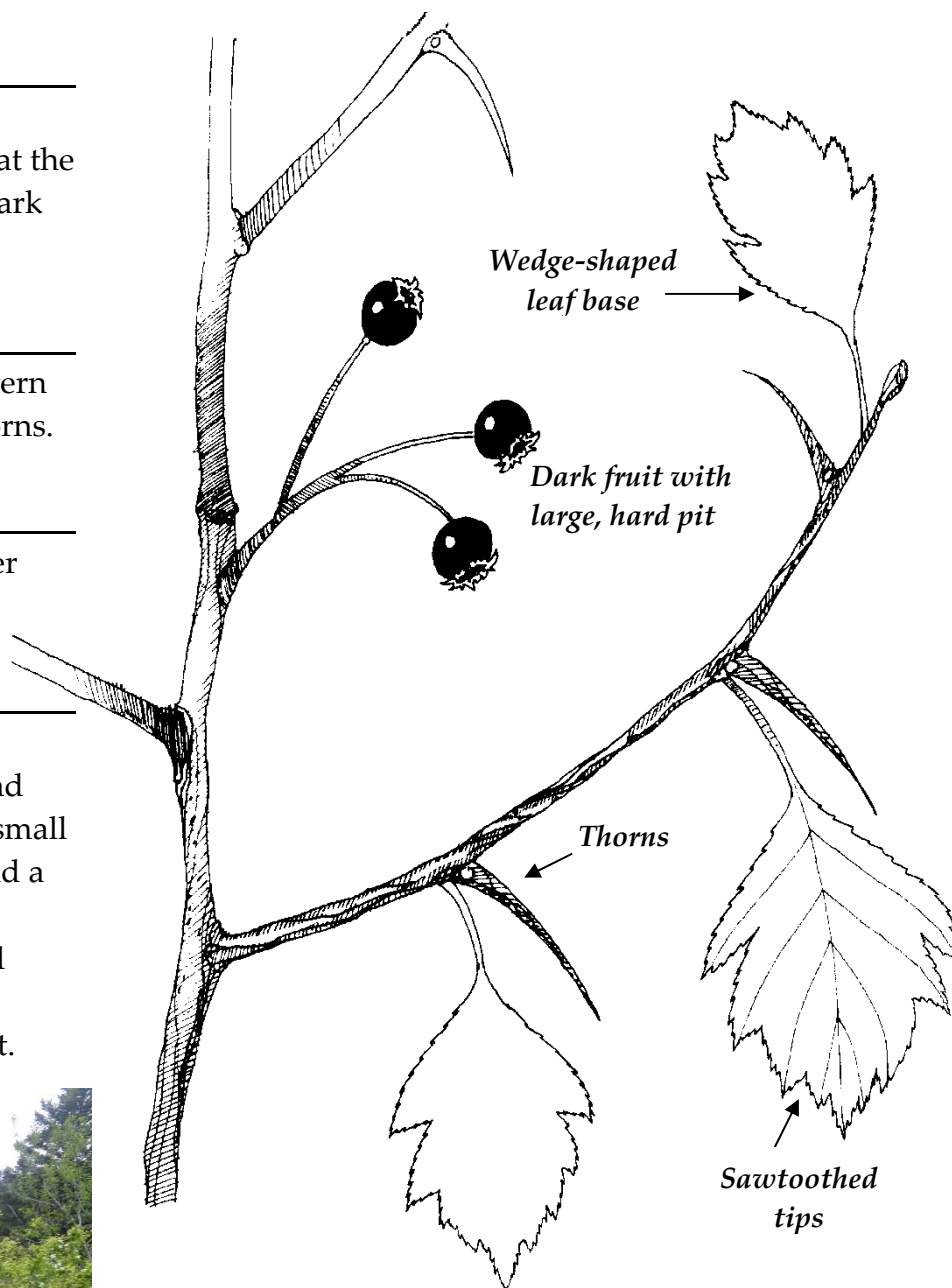
Round-leaved hawthorn, found in eastern Montana. Has red fruit and longer thorns.

Where is it found?

Forms thickets in moist areas with alder and serviceberry.

How is it used?

Palatable forage for elk and deer. Undesirable forage for cattle, horses and sheep. Persistent fruit eaten by birds, small mammals, and bears. Deer, rabbits, and a variety of birds use thickets as cover. Branching characteristics provide good nesting sites. Root system will sprout and sucker, if above ground stem is cut.



Palatability 3 Invasiveness 1 Flammability 1

black hawthorn

kinnikinnick

Arctostaphylos uva-ursi

also called bearberry

What does it look like?

A low, trailing evergreen shrub. Alternate leaves, spatula-shaped, leathery. Waxy flowers light pink, urn-shaped. Reddish, scaly bark. Bright red berry has dry, pulpy center.

Can be confused with:

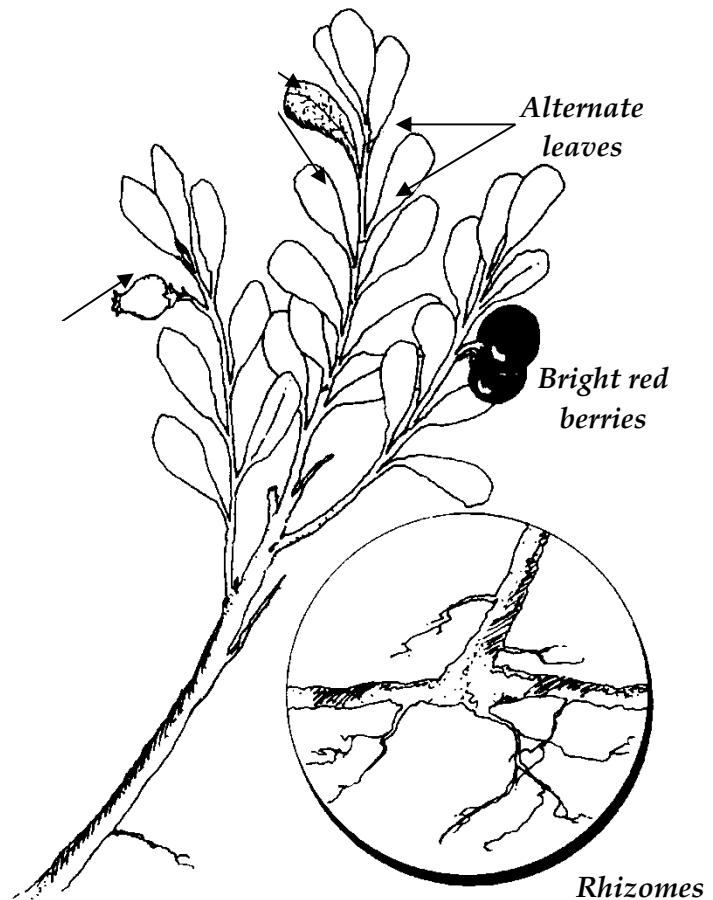
Twinflower has similar leaves and low growth form. Has opposite leaves, flowers appear in pairs.

Where is it found?

Grows in a wide range of conditions. Mainly in forests at low to mid-elevations. Does best on coarse, well-drained soils.

How is it used?

Moderately palatable forage for elk and deer. Undesirable forage for cattle, horses, and sheep. Berries eaten by grouse. Alternate host for spruce broom rust fungus, which causes yellow witches-brooms on Engelmann spruce. Kinnikinnick is an Algonquian Indian word meaning "that which is mixed," referring to its use in smoking mixtures.



Palatability 2 Invasiveness 1 Flammability 2

Kinnikinnick

Rocky Mountain maple

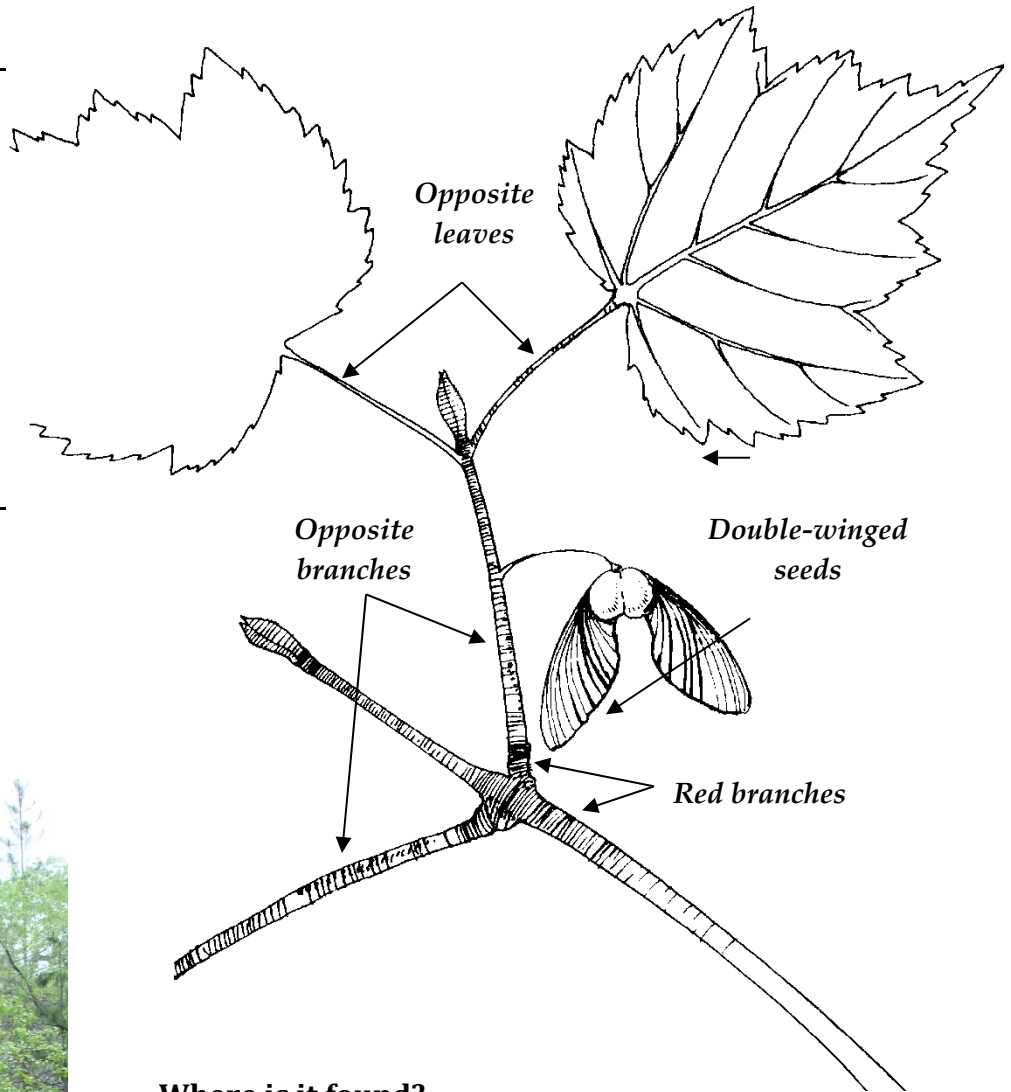
Acer glabrum

What does it look like?

A native shrub or small tree.
Opposite branches and leaves.
Leaves dark green on upper surface, pale green underneath.
Young branches and leaf stems often red. Grows to 25 feet tall.
Stem diameters can reach 8 inches.

Can be confused with:

Other tall shrubs (serviceberry or chokecherry) during winter months. Opposite buds and branches distinguish Rocky Mountain maple.



Where is it found?

In forests at low to mid-elevations. Prefers cool, moist areas with well-drained soils. Will grow in partial shade.

How is it used?

Very palatable forage for elk, deer, and moose.
Palatable forage for cattle and sheep. Undesirable forage for horses. Good hiding cover.

Palatability 4 Invasiveness 1 Flammability 1

Rocky Mountain maple

ninebark

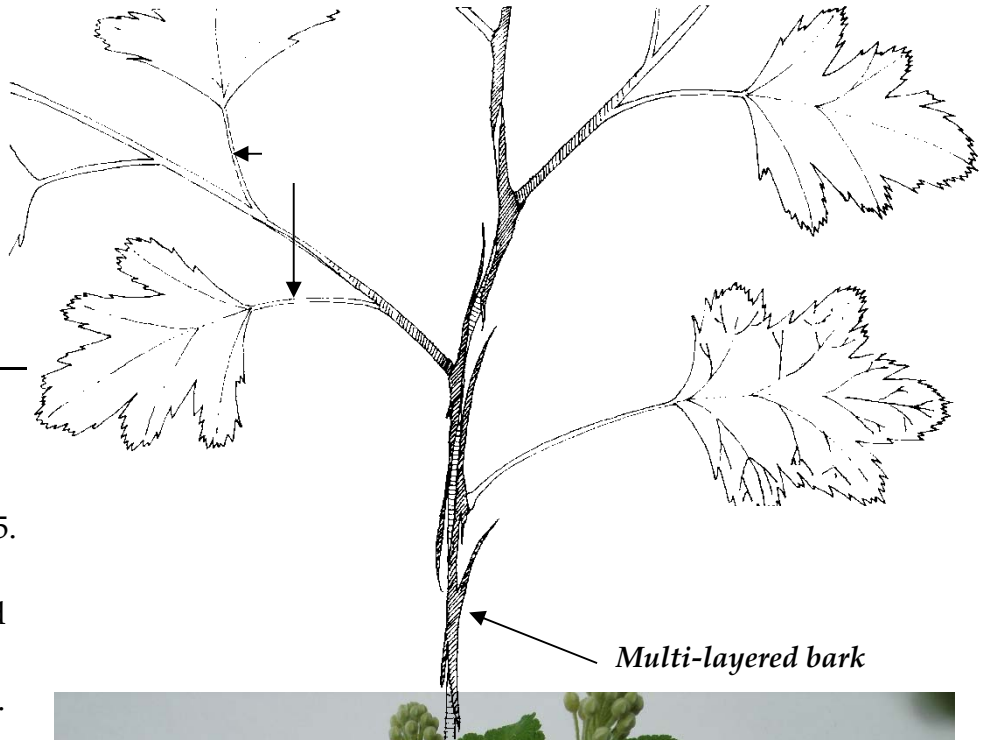
Physocarpus malvaceus

What does it look like?

A native shrub. Alternate leaves having three or five lobes.

Leaves turn rusty red in mid-summer. Named for shreddy, thin, and rough gray bark.

Generally waist high, but can grow to 6 feet tall.



Can be confused with:

Mountain gooseberry has a similar leaf. No shreddy bark.

Has spines. See mountain gooseberry description on page 25.

Oceanspray has similar leaf.

Strongly ridged young shoots and twigs. White flower clusters turn brown and persist into the winter.

Where is it found?

Widespread; from dense moist, to dry open forests.

How is it used?

Undesirable forage for cattle, sheep, elk and deer. Increases in response to heavy grazing. Hardy shrub, used as landscape ornamental.



Palatability 1 Invasiveness 3 Flammability 4

ninebark

Oregon grape

Berberis repens

What does it look like?

Native evergreen shrub with rhizomes. Holly-like leaves, dull green above, whitish underneath, with serrated edges. Some leaves deep red in autumn. Yellow flower clusters develop into pea-sized, dusty-blue berries. Seldom more than 1 foot tall.

Can be confused with:

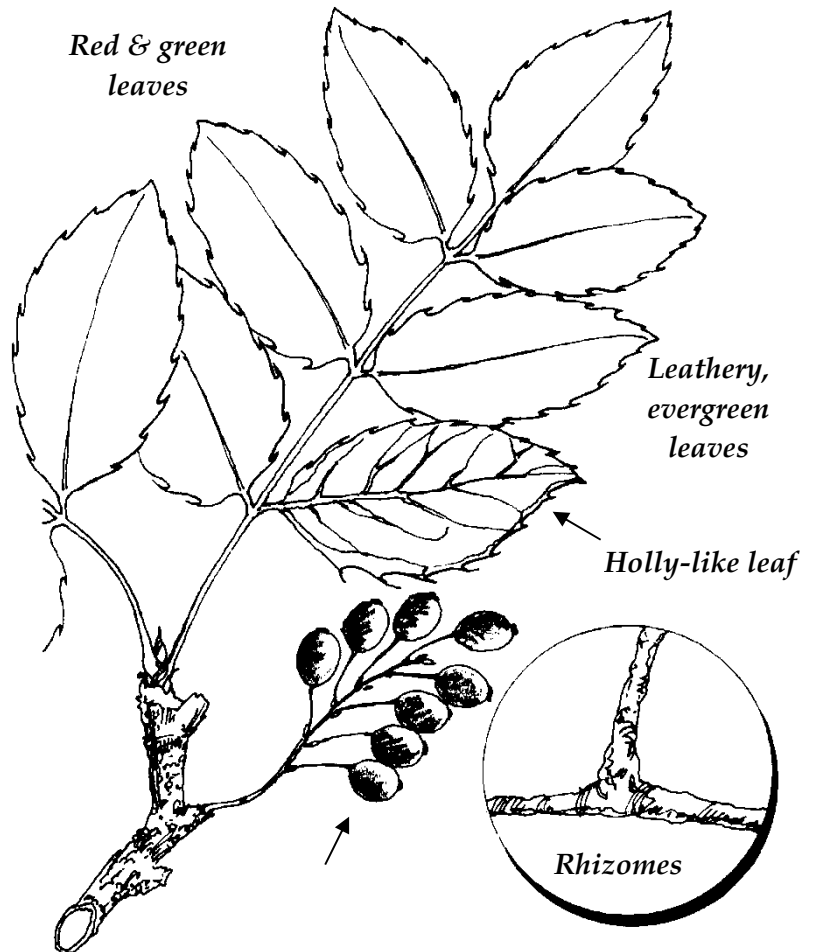
Nothing else.

Where is it found?

Widespread; from dense moist to dry open forests.

How is it used?

Undesirable forage for cattle. Moderately palatable forage for sheep, elk and deer during winter. Increases in response to heavy grazing. Early Native Americans made a medicinal tea.



Palatability 1 Invasiveness 1 Flammability 2

Oregon grape

big sagebrush

Artemisia tridentata

What does it look like?

A native evergreen shrub that is the most common and widespread sagebrush species in Montana. Rounded crown with short trunk. Leaves wedge-shaped, with three blunt lobes, and blue-green in color. Leaves have aromatic sage odor when crushed. Thin bark is grayish-brown, forms long, flat, thin strips. Yellow flowers bloom in August. Grows to 4 feet tall, or 12 feet tall for the *basin* subspecies. (There are 4 subspecies of big sagebrush, with the basin subspecies growing into a small tree and occurs along the southern end of the state on deep soils in valley bottoms).

Can be confused with:

Bitterbrush also has three-lobed leaves. No strong sage smell when leaves are crushed and flowers in the spring versus late summer. See bitterbrush description on page 19.

Where is it found?

Most common woody species on western United States rangelands. Grows on dry, gravelly, rocky, and clay soils; on plains, deserts, hills, and in dry forests throughout Montana. Limited occurrence on in the chinook zone along the Rocky Mountain front.

How is it used?

Moderately palatable forage for sheep, deer, and elk, especially on winter ranges. Undesirable forage for cattle and horses. Many wildlife species (sage grouse, antelope, mountain sheep, jackrabbits, ground squirrels) rely on sagebrush for food and/or cover.

Palatability 3 Invasiveness 2 Flammability 5



big sagebrush

serviceberry

Amelanchier alnifolia

also called juneberry, sarviceberry

What does it look like?

A native perennial shrub or small tree. Alternate leaves oval to roundish, serrated on upper two thirds. Leaves dark green above, hairy underneath when young. Flowers white with silky or hairy stems. Sweet tasting, dark purple berries. Bark reddish-brown to gray with white dots. Grows to 20 feet tall.

Can be confused with:

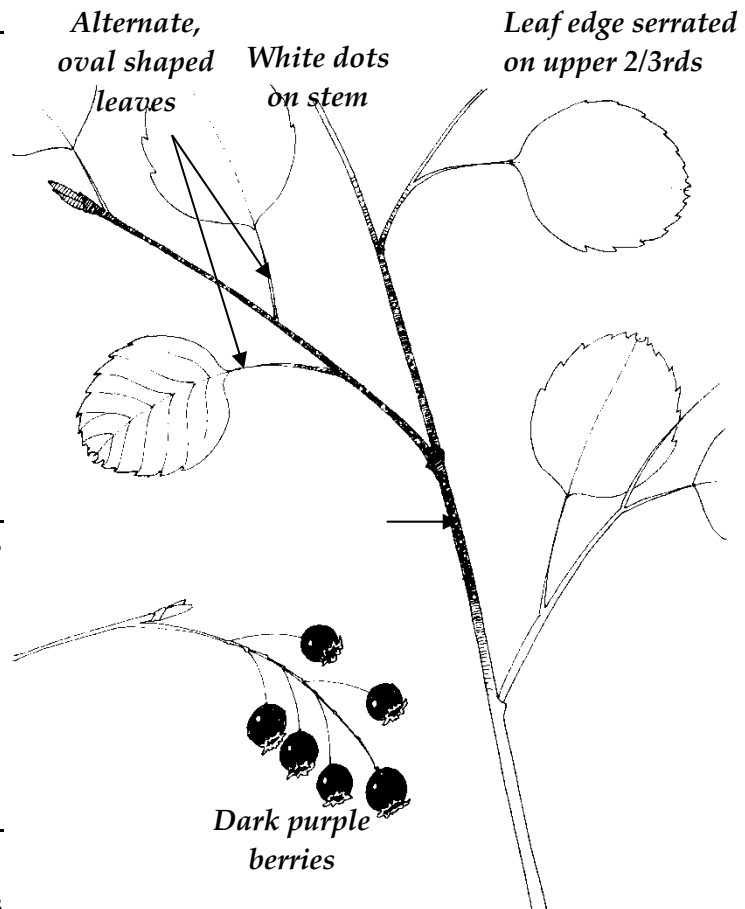
White spirea, a small shrub, with similar leaves. Has white, flat-topped, flower clusters which turn brown and often persist through the winter. Grows to 2 feet tall.

Where is it found?

Wide range of conditions; from dense moist to dry open forests and sometimes in swales and snowdrift areas of eastern Montana.

How is it used?

Very palatable forage for cattle, sheep, elk, deer and antelope. Moderately palatable forage for horses. Decreases in response to heavy grazing. Beaver and marmots eat the bark. Berries eaten by a variety of birds and mammals. Early Native Americans dried and pressed berries for winter food.



Palatability 4 Invasiveness 1 Flammability 1

serviceberry

snowberry

Symphoricarpos albus

What does it look like?

A native perennial shrub with rhizomes. Leaves are opposite, sometimes brown speckled. Stems smooth, hollow, and yellow-brown. Small, white berries often stay on plant throughout winter. Can form low, dense thickets. Grows to 5 feet tall.

Can be confused with:

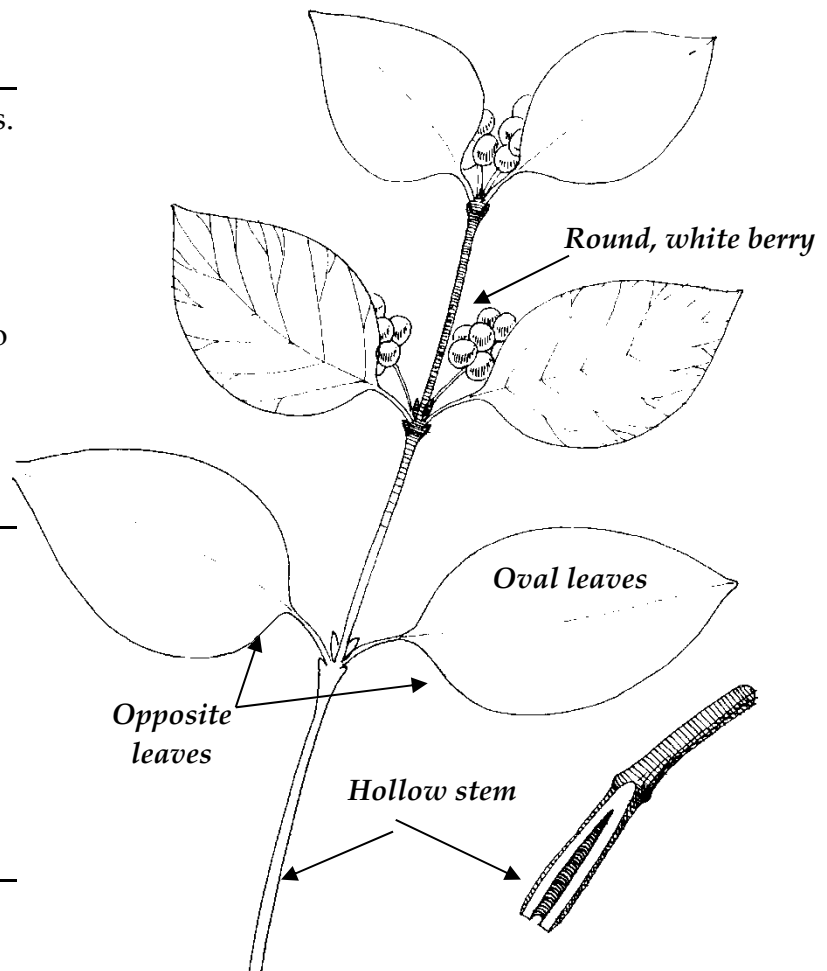
Mountain snowberry is similar. Younger stems have solid centers. It does not have rhizomes. Western snowberry is similar but has fine hairs on its young twigs.

Where is it found?

Found in a broad range of conditions; from dense moist to dry open forests.

How is it used?

Desirability as forage varies within an area from poor to good palatability for cattle, horses, sheep, deer and elk. Food and cover source for grouse, partridge, and pheasant. Bears eat berries. Early Native Americans used leaves, berries and bark for medicinal purposes. Eating the berries is not recommended.



Pic: SLCB

Palatability 2 Invasiveness 3 Flammability 3

snowberry

willow

Salix spp.

What does it look like?

Deciduous shrub to small tree. Leaves are longer than wide with short stems. Twigs yellow-orange. Twigs, leaves, and buds are alternate. The male and female flowers, called catkins, are borne on different plants. Heights vary.

Can be confused with:

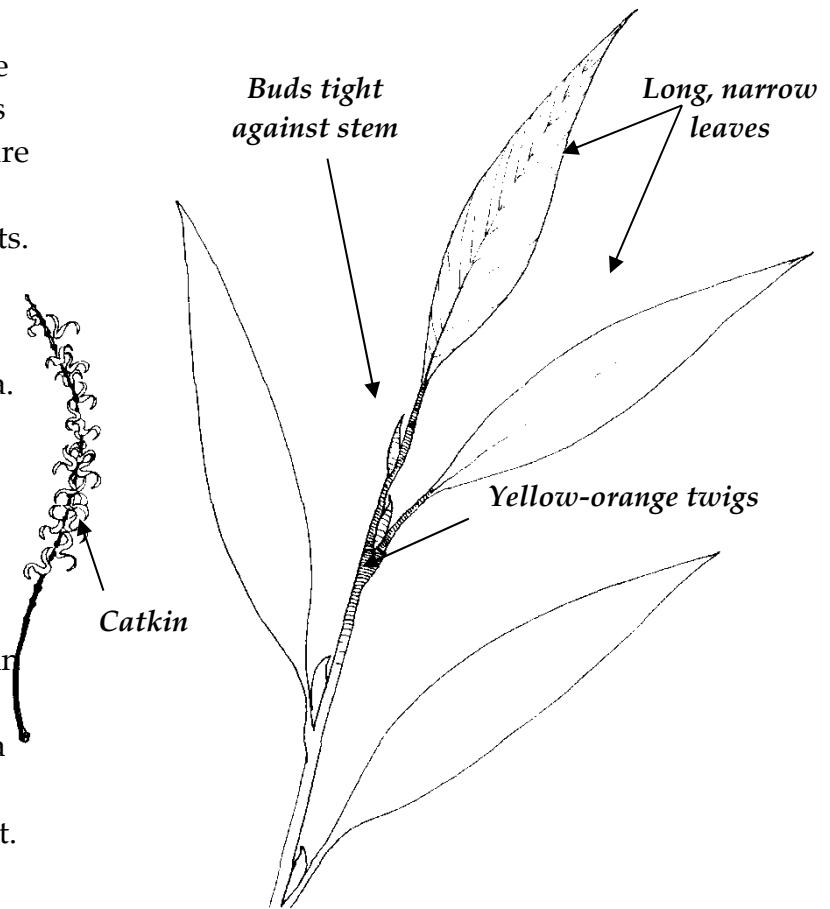
There are 29 species of willow in Montana. Individual species can be highly variable, and hybridization is common.

Where is it found?

Found along moist stream edges, ponds, lakes and in other areas with high water tables. Can be found on uplands as seen in the picture. Dense stands often formed along creek bottoms, moist flats. *Salix* is a Celtic word meaning *near water*. Seldom grow in shade, require nearly full sunlight. (Sculder willow is one common willow species that does grow in the uplands of spruce-fir and Douglas fir forests, and has distinctive spatulate shaped leaves).

How is it used?

Palatable forage for cattle, sheep, elk, deer and moose. A decreaser in response to heavy grazing. Beaver use shoots as food and building material. Thickets along streams enhance fisheries by shading water, forming overhanging banks. Thickets provide good cover and nesting habitat for many bird species. Planted to revegetate disturbed sites adjacent to riparian areas. Bark used by early Native Americans to relieve headaches.



Pic: CAP

Palatability 5 Invasiveness 1 Flammability 1

willow

field horsetail

Equisetum arvense

also called horsetail rush

What does it look like?

A native, perennial rush-like plant with rhizomes. Has two types of stems: 1) A fertile, cone-bearing stem grows in early spring, is flesh-colored and grows 6-12 inches tall; 2) A sterile or vegetative stem grows after the fertile stem, is 1 1/2 –2 feet tall, with many whorls of slender green, jointed branches. Stems are hollow, jointed, and rough to the touch. No true flowers. Reproduces by spores.

Can be confused with:

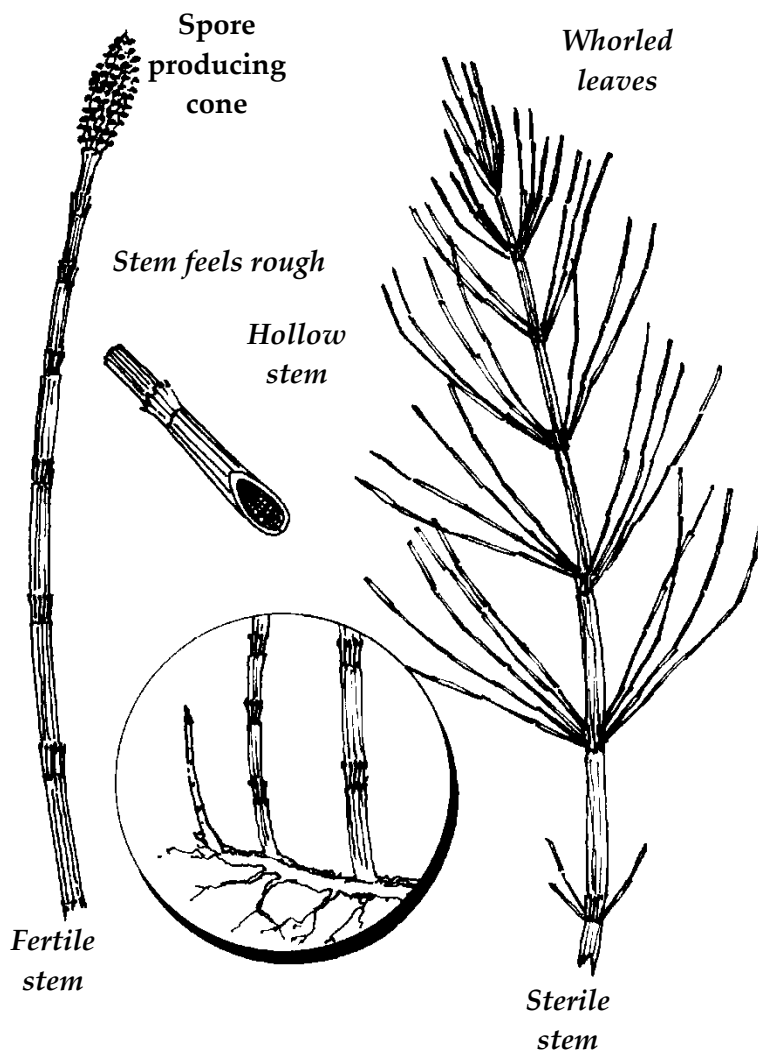
Scouring rush, produces only simple, hollow, jointed stems, with cones. Has no vegetative stems with whorled branches.

Where is it found?

Grows primarily in moist areas with high water tables. Prefers sandy or gravelly soils, as found on many creek banks.

How is it used?

Non-consumed forage for cattle, horses, sheep, elk and deer. Reported to be poisonous, if fed in large quantities, in dry hay. Contains large amounts of silica; abrasive stems were used for scouring and as sandpaper by early Native Americans.



John Cardina, The Ohio State University, Bugwood.org



Palatability 1 Invasiveness 1 Flammability 1

field horsetail

elk sedge

Carex geyeri

What does it look like?

A native perennial sedge with rhizomes, but often forming clumps. Leaves rough to the touch, remain green throughout the winter. Leaf tips and bases are brown. Stem triangular in cross section. Seeds large compared to most grasses. Grows to 18 inches tall.

Can be confused with:

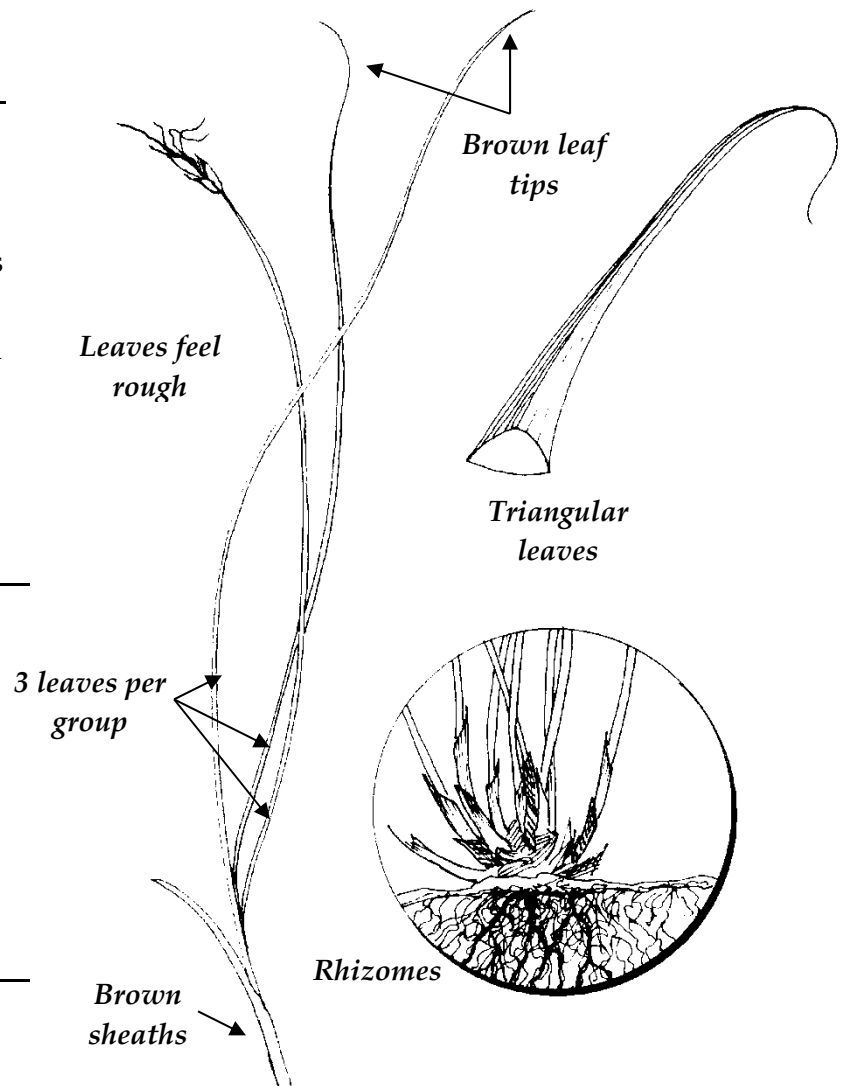
Pinegrass is similar in appearance. Leaves are not rough. Upper leaf surface is shiny. Has a purple stem base. Pinegrass turns straw colored in the late fall and winter. See pinegrass description on page 7.

Where is it found?

Wide range of conditions; from dense moist to dry open forests.

How is it used?

Moderately palatable forage for cattle, horses, sheep, elk and deer. Best as forage in spring due to early growth. Decreases in response to heavy grazing.



Matt Levin, MT State University, Flickr.com



Palatability 3 Invasiveness 1 Flammability 2

elk sedge

Glossary

awn - Slender bristle on the end, back, or edge of a grass flower (seed head).

biennial - A plant which lives for two growing seasons.

bract - Small modified leaf, sometimes green, sometimes other colors.

deciduous - A plant which seasonally sheds leaves, typically once a year.

decreaser - A plant whose relative amount will decrease in an area subjected to continuous grazing.

fern - Non-flowering plants which reproduce by spores.

forb - Member of a plant group which has little or no woody tissue and is not a grass. Generally have broad leaves which are net veined. Flowers are often colorful and showy. . Forbs are plants that die to the ground each year.

grass - Plants which have both hollow and solid stems with nodes. Leaves come off two sides of the stem and have parallel veins.

increaser - A plant whose relative amount will increase in an area which is continuously grazed.

introduced - An exotic plant which does not naturally originate from the local vicinity.

invader species - Plants which will quickly populate disturbed or overgrazed ranges, are non-native, and/or possess an annual or biennial growth habit.

native - A plant which naturally originates from the local vicinity.

perennial - A plant that lives more than two years, even though it sometimes dies down to the ground each year.

rhizome - An underground reproductive stem which produces roots and upright branches or stems.

rosette - A cluster or whorl of leaves which develop at the base of a plant.

sedge - Grass-like plant group with leaves that come off three sides of the stem. Stems are often triangular in cross-section.

serrated - Saw-toothed margin which points towards the leaf tip.

sheath - The lower part of a leaf which encloses the stem.

shrub - A woody plant which branches freely near the soil level; woody stems persist from year to year.

spike - An elongate cluster of non-stalked flowers.

spatulate - a leaf shape that is rounded near the tip and narrows at the base.

spore - A microscopic reproductive cell or small number of united cells produced by a plant or fungi.

tuft - A plant outgrowth which is attached or clumped at the base and free at the opposite end.

weed - A plant that is undesirable - an unwanted species which has populated an area, often becoming established after a disturbance to a natural plant community.

