Trees and Shrubs in Montana

This publication is aimed at making it easy to identify trees and shrubs growing naturally within Montana. A few introduced species are also included.

By learning how to identify trees and shrubs, you will improve your knowledge about Montana and about the growing things near streambeds, mountain slopes-practically everywhere that plants grow. You will find much pleasure in you pursuit, and you will also have at your command the beginning of an excellent hobby.

Two names are given for each tree or shrub. One is the common name and the other the scientific or Latin name. A tree or shrub may have several common names, but it will have only one precise scientific name.

The forests of Montana cover 22,330,000 acres of the state's 93.3 million total acres. The greatest variety of trees and shrubs is in the forested areas. Windbreaks, shelterbelts, rivers and creeks are other areas that have numerous trees and shrubs. Many can be identified by using the keys in this publication.

Trees and shrubs are useful in many ways. They provide building materials, feed and cover of wildlife, watershed protection, Christmas trees, power poles, fence posts, railings, and hundreds of other uses.

The first section of this publication describes the softwood or "evergreen" species of trees and shrubs. They are also called conifers. The second section describes the hardwood or broadleaved trees. The third section is about broadleaved shrubs. Each of the three sections is preceded by a key for your use. Also included is supplementary list of trees and shrubs recommended for windbreaks and shelterbelts.

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How to Identify Trees and Shrubs

Trees and shrubs will be easy to identify when you become familiar with the keys used in this publication.

Three keys are provided for your use. One is for the conifers (both trees and shrubs), another is for the broadleaved (deciduous) trees, and the third is for the broadleaved shrubs. Since these keys have been arranged for the layman, botanical terms have been reduced to a minimum. However, the keys will still be useful for students.

Most of the trees that are uncommon, or occur rarely, in Montana have been left out to make the keys short and easy to use. Only about one-fifth of the shrubs known to be in the state are included here.

You will have no difficulty following a key if you think of it in terms of traveling down a road where there are many, well-marked "Y" intersections. If you read the signs and follow the instructions, you will have no trouble getting where you want to go. In fact, you will get there easily.

Three Essential Points to Remember About Using a Key

1. Two opposing characteristics are always set down so that you will have a choice of the one that best fits the plant you want to identify.

   For example: 1. Leaves 4-7 inches long.....
   1. Leaves less than 3 inches long.....

2. After you select the characteristic, or proposition, that is the most descriptive for your plant, read to the end of the line to find the identifying name. If it is not there, then look down at the next step of proposition, or characteristics.

3. Don't skip down through the key. Take the contrasting pair of characteristics, or propositions, in order. When you finally find the selection that has a name, check it with the description and illustration.

Follow Through with One Example

The plant we want to identify is a tree. The leaves are needle-like, 2 inches long and in groups of two; cones are woody, 1-2 inches long.

Turn to the conifer key on page 3.

- Read the pair of propositions "number 1." You'll find the second number 1 (page 4) proposition describes the plant best: "Leaves needle-like to awl-shaped, 1/4 inch or longer."

- Read the indented pair of 5s under the proposition 1 that we selected. You'll find the second 5 best described our plant. The leaves in our example are in clusters of 2-5. But we still don't have a name.

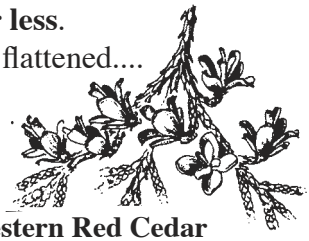
- Read the next indented pair of propositions, the 7s. Since the leaves are in clusters of two, and not single, we select the first 7.
- Read the next pair, the 8s. We select the first proposition 8 because our plant has needles in group of twos.
- We still have to look down at the next indented pair of prepositions. We select the second 9 because the leaves are less than 3 inches long. At the end of this line, we also find the name "Lodgepole Pine."
- We can now turn to the appropriate page inside the bulletin to learn if our specimen corresponds with the illustration and the description. They correspond, so we have probably determined it correctly.

Key to Conifers

The conifers are cone-bearing **trees or shrubs**, the cones being woody, papery or berry-like. The leaves are needle-or-scale-like and, for most species, evergreen. Exceptions are the larches, whose needle-like leaves fall each winter.

1. **Leaves mostly scale-like, 1/4 inch long or less**.

2. Seeds in woody cones, branchlets flattened....



Western Red Cedar

page 22

2. Seeds in berry-like cones; branchlets not flat

3. Plants creeping on ground.....**Creeping Juniper**

3. Plants upright shrubs page 25

4. Berry copper-colored under the powdery, waxy coating; pulp sweetish..... **Utah Juniper**

page 27

4. Berry blue-black beneath waxy coating; pulp resinous..... **Rocky Mountain Juniper**

page 23

1. Leaves needle-like or awl-shaped, 1/4 inch or longer

5. Leaves 10-40, densely clustered on spur branches, ½ inch long or less; leaves falling in winter

6. Twigs densely hairy; leaves four-sided ..... **Subalpine Larch**

page 12

6. Twigs sparsely or not at all hairy; leaves three-sided..... ..... **Western Larch**

page 13

5. Leaves single or in a cluster of two to five; evergreen

7. Leaves in clusters of two to five

8. Leaves in clusters of two to three.....

9. Leaves 4-7 inches long, in threes or twos; cones 3 inches or longer..... **Ponderosa Pine**

page 8

9. Leaves less than 3 inches long in twos; cones 2 inches or longer..... **Lodgepole Pine**

page 7

8. Leaves in clusters of five.....

10. Cones cylindrical, 5-10 inches long, scales thin..... **Western White Pine**

page 9

10. Cones top- or egg-shaped, less than 6 inches long; scales thick

11. Young cones purple, falling when mature, scales mostly tight, cone disintegrate on ground..... **Whitebarked Pine**

page 10

11. Young cones green, persist on tree one year, scales open, last several years on ground..... **Limber Pine**

page 11

7. Leaves single.....

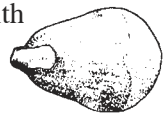
12. Leaves four-sided, can be rolled between fingers

13. Cones 2 1/2 inches or more in length.... **Colorado Spruce**

page 14

13. Cones less than 2 1/2 inches long

14. Cone scales broadly rounded at tip with smooth margin.....



White Spruce

page 15

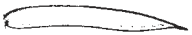
14. Cone scales angular with fringed edge..

Engelmann Spruce

page 16

12. Leaves flat or nearly so.....

15. Leaves tapering to a sharp point; a low shrub.....



Community Spruce

page 26

15. Leaves with parallel sides; trees or shrubs

16. Seeds in reddish, berry-like cones; shrubs or trees usually under 15 feet.....

Pacific Yew

page 24

16. Seeds in papery or woody cones; shrubs or tall trees

17. Leaves not conspicuously stalked at base; cones borne upright; cones scales fall individually

18. Cone scales as long as broad, usually can be found under tree; leaves usually on all sides of stem.....

Subalpine Fir

page 21

18. Cones scales broader than long; leaves usually on two sides of stem.....

Grand Fir

page 20

17. Leaves narrowed at base into a short stalk or raised from stem on a short stalk; cones hang downward, entire cone falls when mature

19. Cones with prominent three-pointed bracts extending beyond the scales...

Douglas-Fir

page 17

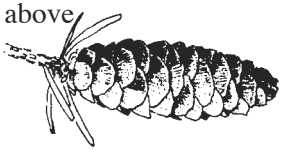
19. Cones without such bracts.....

20. Cones 1 inch long or less; leaves flat.....

Western Hemlock

page 18

20. Cones 1-3 inches long; leaves rounded or ridged above

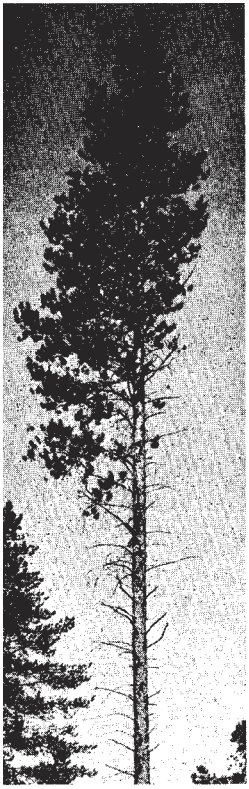


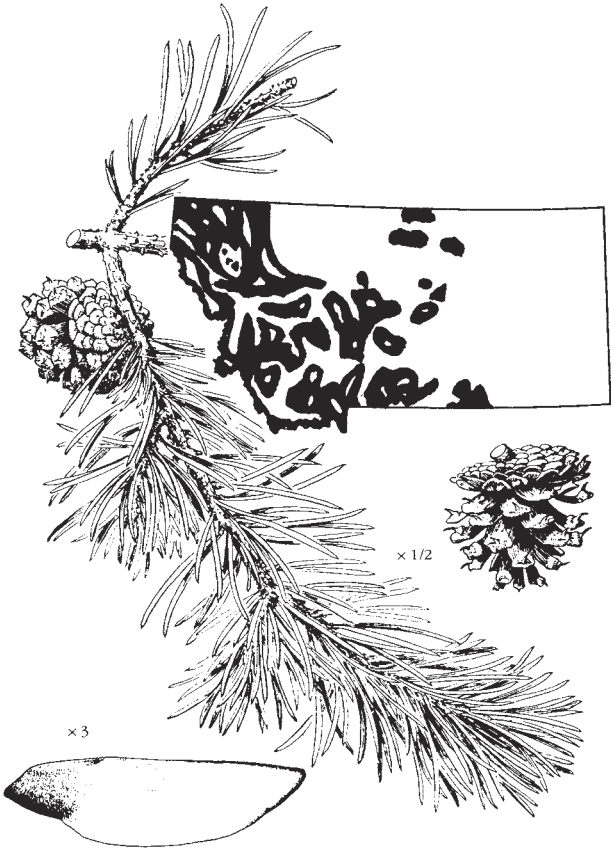
Mountain Hemlock

page 19

Lodgepole Pine

(Pinus contorta)





Lodgepole pine is a tall, slender tree, 30 to 100 feet tall, with the trunk 8-18 inches in diameter. It grows fast and often forms dense stands. The young trees do not grow in the shade of other trees, but after a fire they come in much thicker then they can survive and there is a natural thinning of the stand. The common name of this tree is derived from the early use made of it by the Indians and pioneer white settlers for constructing log frameworks and buildings.

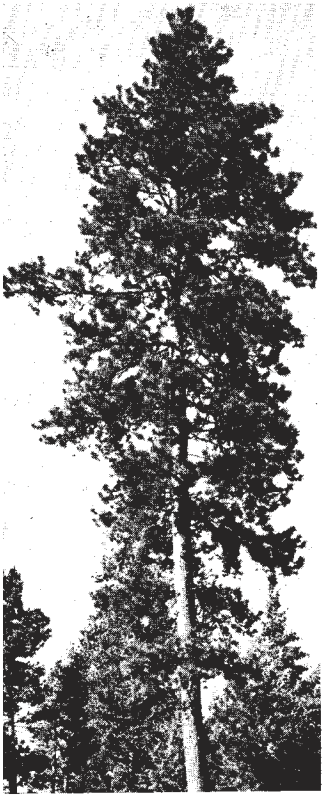
Needles: 1-3 inches ling, two in each bundle.

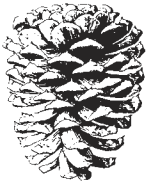
Cones: 3/4-3 inches long, appear lopsided, are armed with sharp spines. Cones may open at maturity but often remain closed for many years. Heat of a fire usually will cause the cone to open and reseed the area.

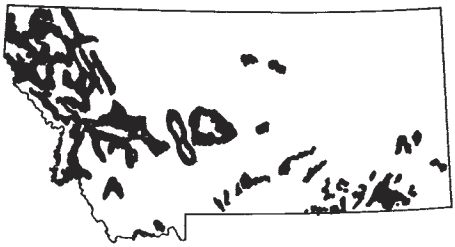
Bark: About 2/5 inch thick, orange-brown to gray, flaky.

Ponderosa Pine

(Pinus ponderosa)







Ponderosa pine is the state tree of Montana. It is a very important tree for lumber. It grows from 50 to 180 feet tall. The young trees are often called "black jack" or "bull pine," and the older trees, "yellow pine."

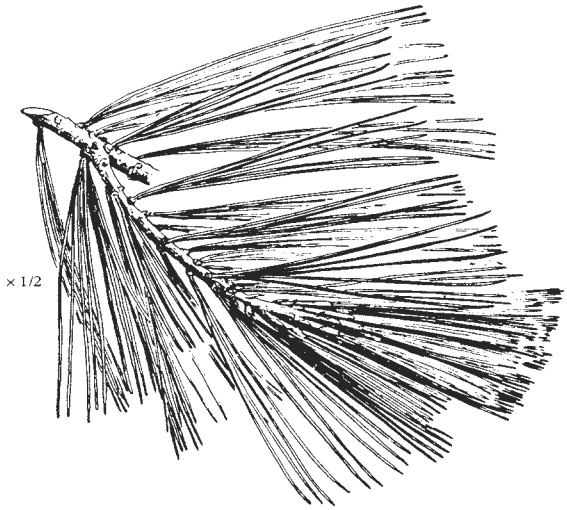
Needles: Three needles or sometimes two in each bundle, usually 4-7 inches long in tufts at the end of the branches.

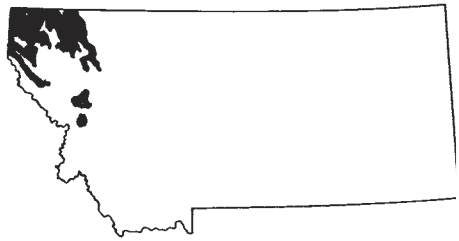
Cones: 3-6 inches long, broadly rounded at base, tapered to the tip, short and squat; bright green, becoming reddish brown as they get older. They are armed with small spines.

Bark: Dark on small trees, cinnamon-brown to orange-yellow, thick and broken into large, flat, irregular "jig-saw puzzle-shaped" plates on old trees.

Western White Pine

(Pinus monticola)





This tree is commercially important because its wood is soft, light-weight and easily worked. It is a straight tree, 75 to 200 feet tall. Its lumber is used for mill work and matches. A blister rust disease is a very serious enemy of this tree.

Needle: 2-4 inches long, in clusters of five; flexible, bluish green.

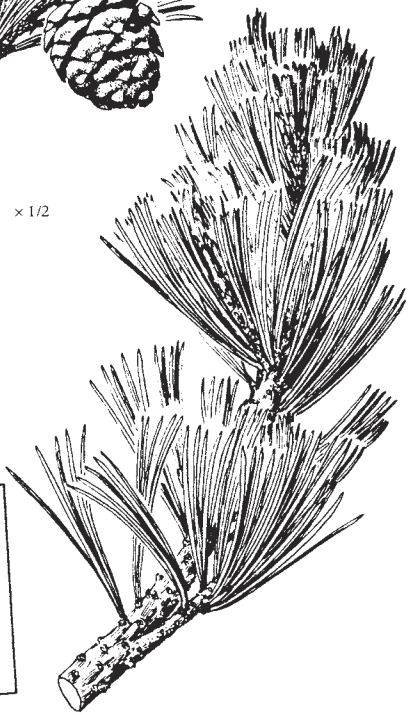
Cones: 5-10 inches long, green before opening and light brown when ripe; scales thin. Found principally near the tops of the trees.

Bark: Thin, smooth and light gray on young trees; in dark gray square or rectangular plates on old trees.

Whitebarked Pine

(Pinus albicaulis)

× 1/2



Both whitebarked pine and limber pine are usually short and gnarled, with large, edible seeds that are sought after by wildlife. Adapted to a wide variety of sites but usually grows on rocky soils and exposed sites at high elevations. It has little commercial value in Montana.

Needles: 1½ –2½ inches long, five in each bundle; grow in clusters at the ends of the branches.

Cones: 2-3 inches long, almost round, chocolate brown or purple. Seeds large, ⅓ to ½ inch long, without wings. “Cones disintegrate after maturity.

Bark: Thin, scaly, light gray.

Limber Pine

(Pinus flexilis)

Like whitebarked pine, limber pine is usually a twisted and stunted tree, from 15-30 feet in height. It is of little commercial value. Adapted to a wide variety of sites but usually found on summits, ridge tops and rocky foothills. It has some ornamental value.

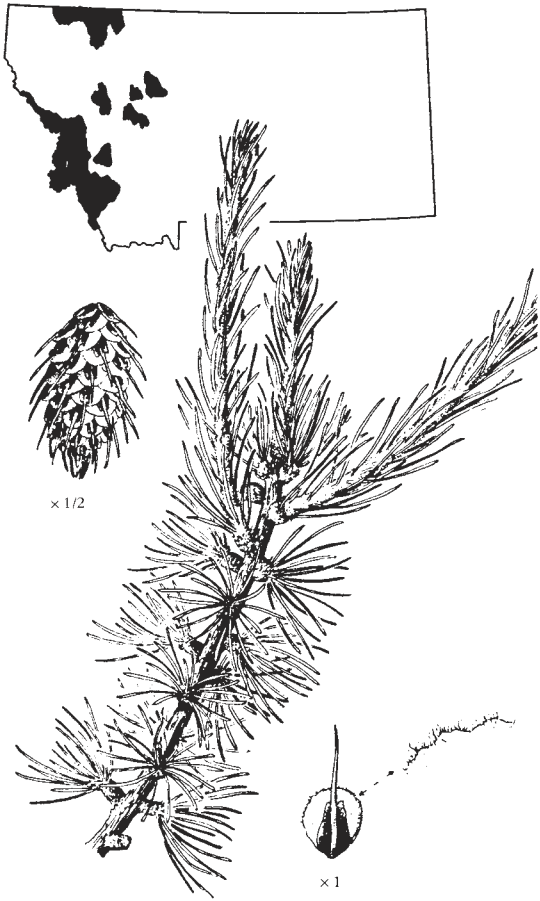
Needles: 1-3 inches long, in dense clusters of five at and near the ends of the branches.

Cones: 3-6 inches long, green when young, turning pale, greenish brown as the cone matures. Seeds are large, 1/3-1/2 inch long, without wings, edible.

Bark: Thin, smooth, light gray on young trees, dark brown and plated on old trees.

Subalpine Larch

(Larix lyallii)



This is a small tree, 25 to 50 feet tall, that grows only at very high elevations near the limits of tree growth along or west of the Continental Divide. It is not important as a commercial tree. Like all larches, it drops its needles in the fall.

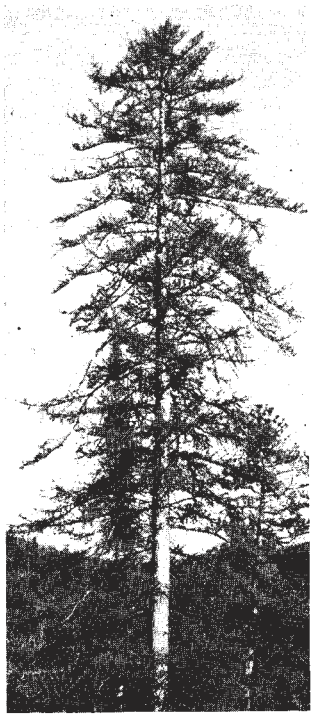
Needles: 1-1½ inches long in clusters of 30 or more; sharp-pointed, pale blue-green; turn yellow late in the autumn.

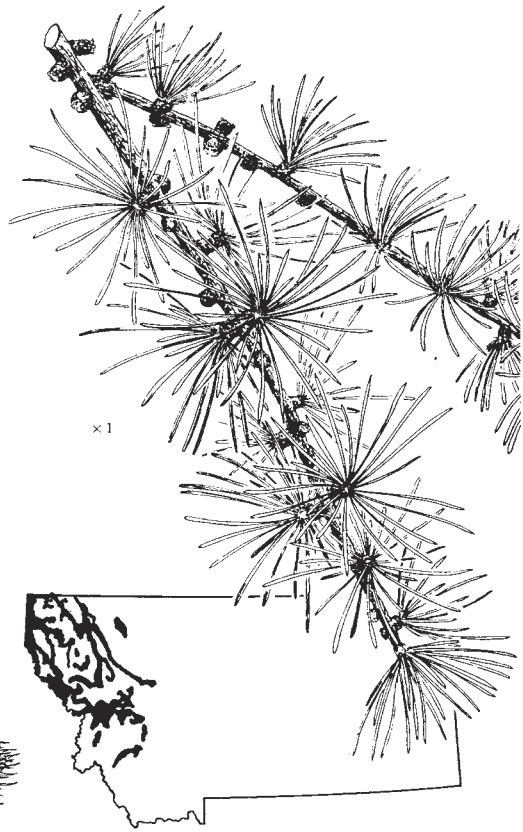
Cones: 1-2 inches long, egg-shaped, red-purple in color. Cone scales are broader than long, fringed at the margin and covered with fine-matted hair on the lower surface. Purple bracts stick out from among the cone scales.

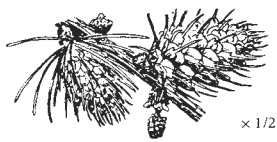
Bark: Thin, ash-gray on young trees; purplish or reddish brown with loose scales on older trees.

Western Larch

(Larix occidentalis)







Western larch is large forest tree 100 to 200 feet in height. It has a straight trunk with a very open crown. It loses its needles in the winter, and in this way the larches are different than the rest of our cone-bearing trees. Western larch has many commercial uses. It is intolerant of shade. It occurs west of the Continental Divide in Montana.

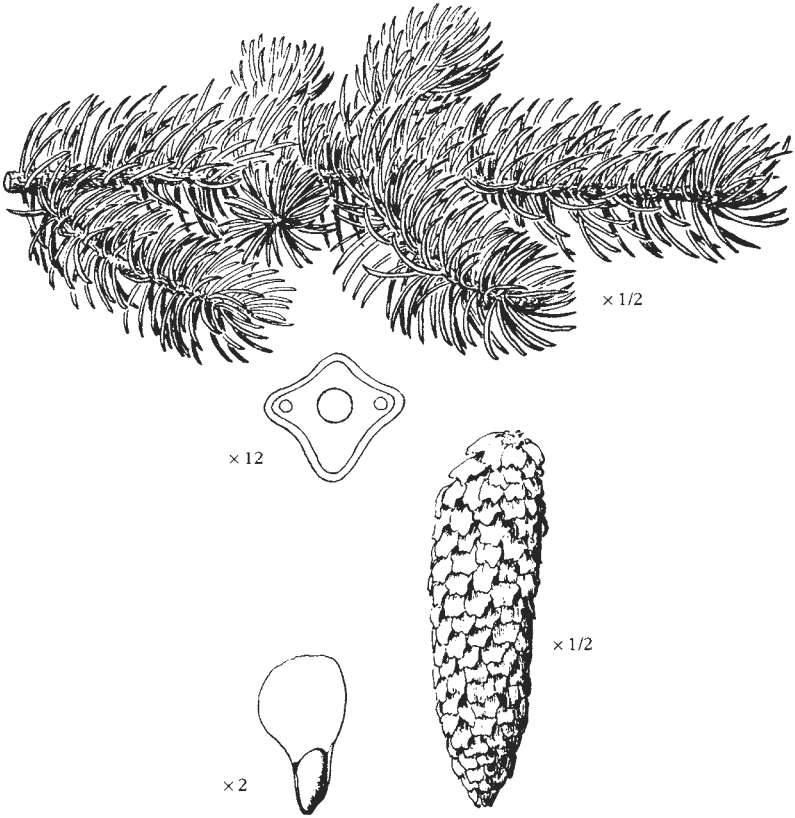
Needles: 1-1 3/4 inches long, in clusters of 14 to 30; triangular, sharp-pointed, but soft to touch. Pale green in color, turn yellow before falling in early autumn.

Cones: 1-1 1/2 inches long, oblong, purple-red to red-brown, with numerous thin stiff scales. Seeds: 1/4 inch long, each with thin, fragile wing 1/2 inch long.

Bark: Thin, dark-colored and scaly on young trees; up to 4-6 inches thick, broken into plates, and red-brown to cinnamon-brown on older trees.

Colorado (Blue) Spruce

(Picea pungens)



Colorado (blue) spruce is widely planted through the state as an ornamental tree and in windbreaks. It is a tall tree, 50 to 150 feet, with a dense crown. The tree, twigs and needles of the three spruces listed in this publication are very similar and not readily usable for recognition, but the cones are very distinctive. The bluish color of the leaves of some of the trees results from a wax (cutin) accumulation, which is genetically controlled. Only part of the trees of this species have this characteristic.

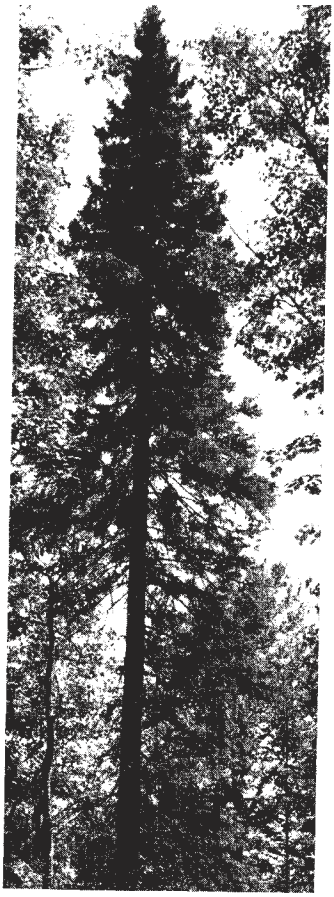
Needles: 1-1$^{1}/_{2}$ inches long, single, very sharp-pointed, four-angled and four-sided, bluish green to silvery white in color.

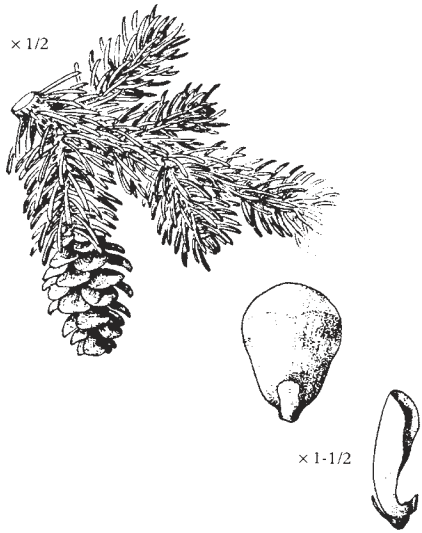
Cones: 2-5 inches long, with papery scales that are angular and fringed at the tip.

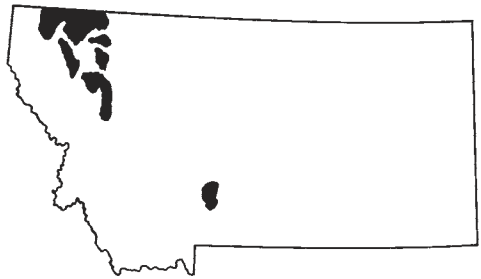
Bark: Thick, scaly, grayish with cinnamon-red streaks.

White Spruce

(Pinea glauca)







This tree grows over a large area in Canada and Alaska and is found occasionally in Montana. Like Engelmann spruce, it prefers damp woods and banks of streams and lakes. Usually, it is a rather small tree, 60 to 70 feet high, and is not used for commercial purposes.

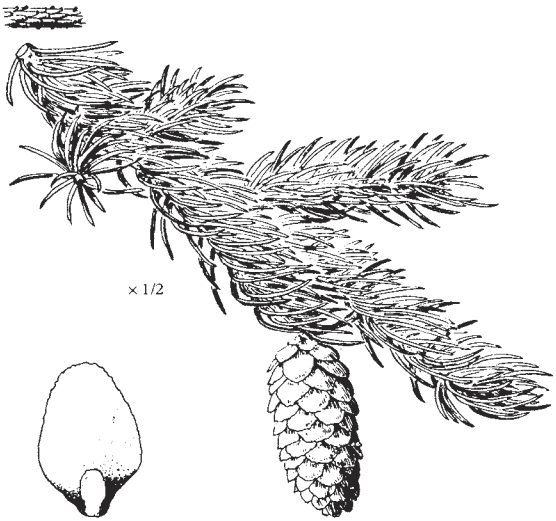
Needles: 1/3–3/4 inch long, with sharp, rigid tips, crowded on upper side of branch.

Cones: 1-2 1/2 inches long, light green or reddish with broad, smooth-margined scales.

Bark: Thin, ash brown to silvery; separated into irregular, thin plates.

Engelmann Spruce

(Picea engelmannii)



Engelmann spruce is commonly found in cool mountain canyons along streams and lakesides. At high elevations, it grows in nearly pure stands. This spruce has a straight trunk with spreading and drooping branches in regular whorls forming a narrow spire. Its wood is white and soft.

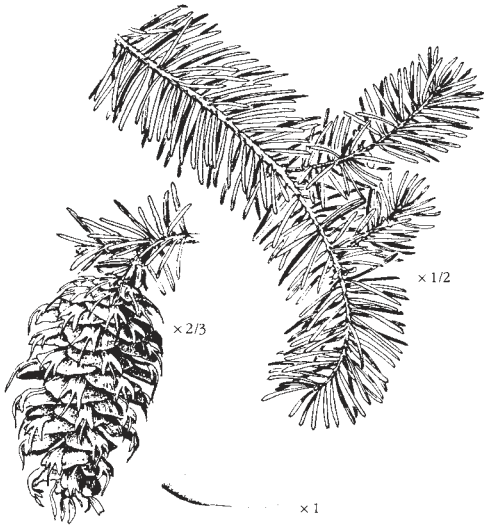
Needles: 1 to 1 1/8 inches long, single, sharp-pointed, bluish green to silvery white in color.

Cones: 1 1/2 –2 1/2 inches long, oblong, with papery soft scales, tapered and irregular at the outer margins.

Bark: Thin, scaly, grayish-red to purplish-brown in color.

Douglas-fir

(Pseudotsuga menziesii)



Douglas-fir is really not a fir at all. Many things about it are different than the true firs, especially the cones. Although it is a very large tree in coast areas, it seldom gets taller than 130 feet in Montana. Douglas-fir is used extensively for Christmas trees, lumber and plywood in this state. Its terminal buds are pointed.

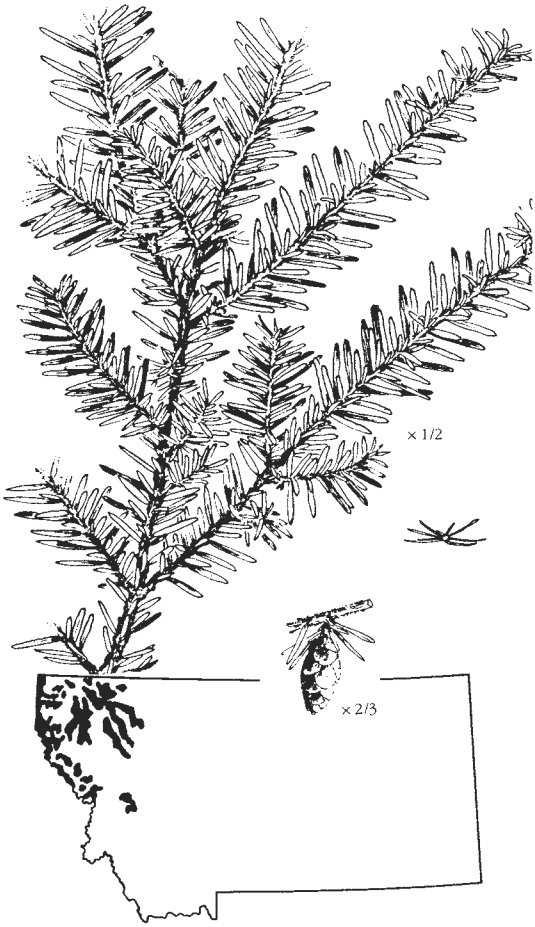
Needles: 3/4-1 1/4 inches long, single, flat, slightly grooved above and marked below with two light bands. Needles become narrow at base where they are attached to the branchlets; sharper at the end than the true firs.

Cones: 2-3 inches long, 3/4-1 inch in diameter, oblong, can be identified by the three-pointed wings or bracts that stick out beyond the cones scales. Cones differ from those of true firs because they hang downward and do not shatter when they mature. Cones are distributed over all of the tree's crown.

Bark: Smooth, gray-brown with resin blisters on young trees; thick, deeply grooved, cork-like and gray-brown on old trees.

Western Hemlock

(Tsuga heterophylla)



Western hemlock is a large tree 125 to 175 feet tall that grows in humid areas where the soil is deep and moist. It has very dense, drooping foliage that forms a pyramidal crown with a drooping leader at the extreme top.

Needles: 1/4-3/4 inch long, single, rounded at end, flat and grooved above, dark shiny green on the upper surface; of varied lengths; the longer ones appear to spread mainly from the two opposite sides of the branchlets.

Cones: 3/4-1 inch long, oblong, hang down, light brown in color.

Bark: On old trees, 1-1 1/2 inches thick, deeply divided into broad, flat ridges; russet brown in color.

Mountain Hemlock

(Tsuga mertensiana)

Mountain hemlock usually grows at high elevations, near the timber line. Although it may be a tall tree on moist sites, it is often a short, sprawling tree with drooping branches and tops. It has little commercial value.

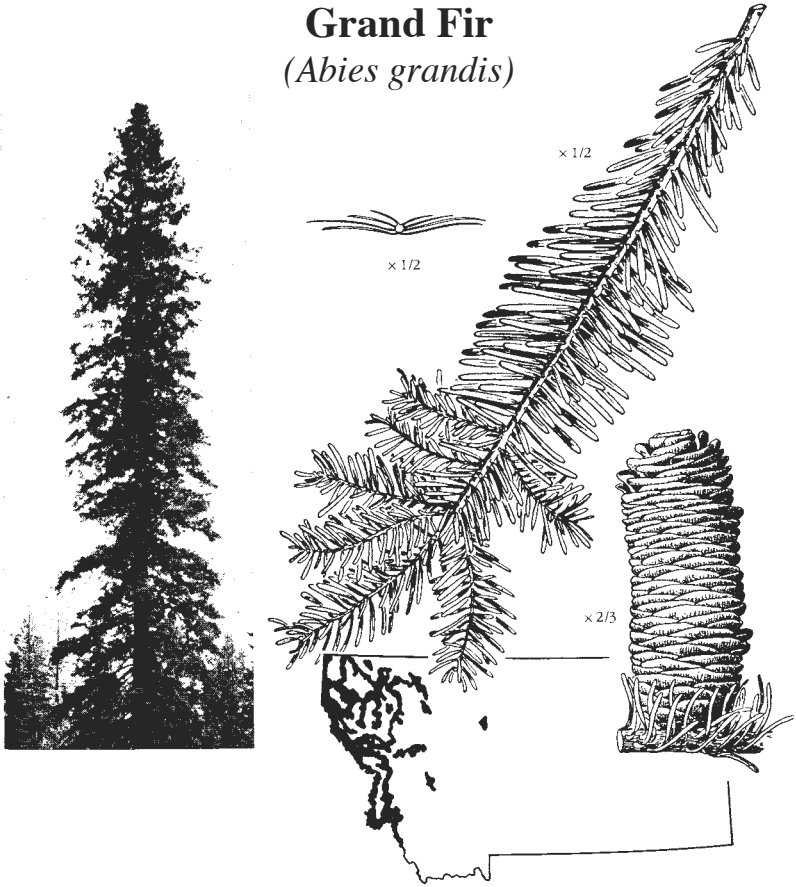
Needles: 1/2-1 inch long, pale bluish-green, often grooved on upper surface; bluntly pointed, stand out from all sides of the branches.

Cones: 1-3 inches long, yellow-green to purple, oblong and narrowed toward the ends; mature in one season.

Bark: Thin (1-1 1/2 inches), broken and rough on young trees; hard, purplish-to red-brown on old trunks.

Grand Fir

(Abies grandis)



Grand fir, sometimes called lowland fir, is one of the two true firs native to Montana. Sometimes it is difficult to tell it from subalpine fir but is usually grows at low elevations. It often has a wide crown, with broad-spreading lower limbs. It grows on damp sites, seldom getting more than 120 feet in height and 3 feet in diameter in Montana. The wood of this tree has a spicy odor.

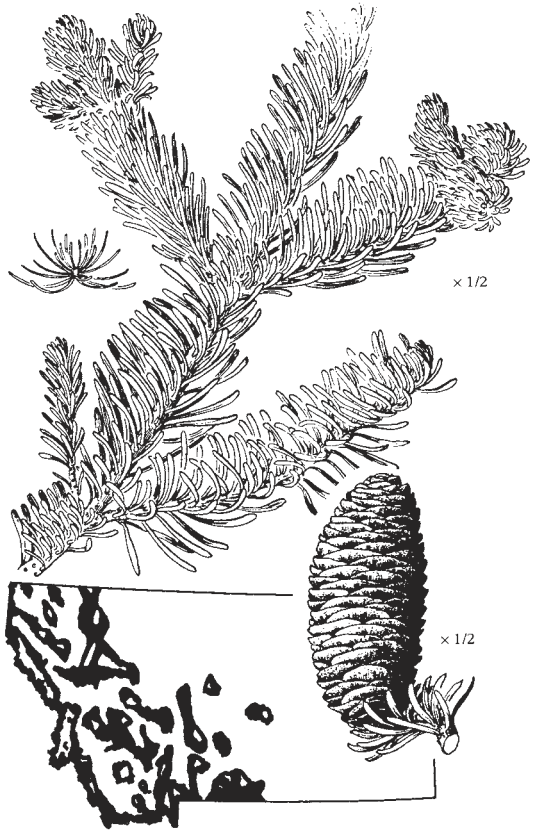
Needles: 1/2-2 inches long, blunt, single-notched at ends; dark green and shiny on upper surface, silvery white below; straight, flexible, stand out distinctly from two opposite sides of the branches, or grow nearly erect.

Cones: 2-4 inches long, cylindrical, bright green, grow upward. Mature in one season. Cones scales shatter in the fall, leaving only the cone axis on the tree.

Bark: Thin, smooth, gray-brown with resin blisters and white blotches on young stems, but 2-3 inches thick, red-brown, hard and rough on older trees.

Subalpine Fir

(Abies lasiocarpa)



This tree reaches a height of 80 feet and a diameter of 2 feet but becomes much smaller at high elevations and is often a shrub-like tree at timberline. Usually has a long, dense, narrow, pyramidal, spire-like crown, with short, thick branches. It grows in shaded places where many other trees will not live and, although common at high elevations, it also grows in cool, narrow canyons and north slopes at low elevations.

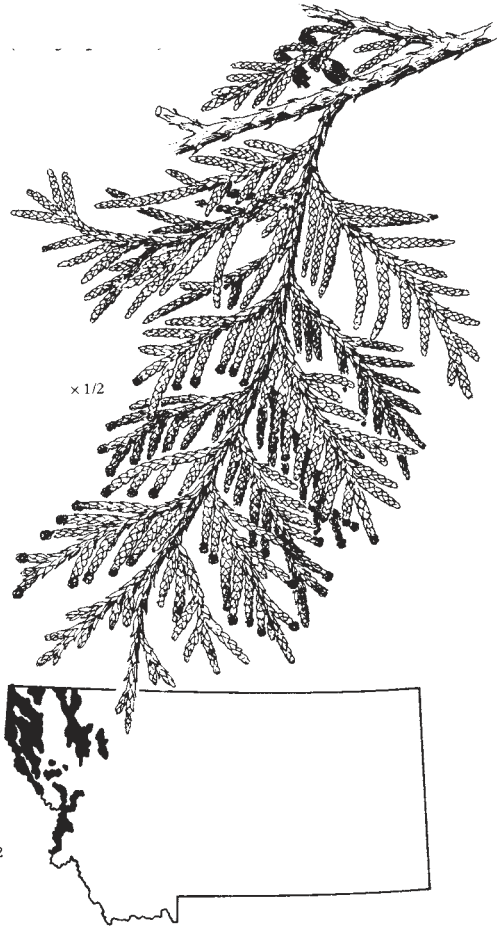
Needles: 1/2-1 1/2 inches long, flat, crowded on the branches and often nearly erect because of a twist at the leaf base; blue-green in color.

Cones: Borne upright, 2-4 inches long, cylindrical, purplish; cone scales often longer than broad; shatter individually, leaving only the spinelike cone axis on the tree.

Bark: Thin, gray, smooth except for numerous resin blisters on young trees; gray to cinnamon-red on old trunks.

Western Red Cedar

(Thuja plicata)



Western red cedar, also called giant arborvitae, is a large tree that grows to about 150 feet in height and 6 feet in diameter. It is evenly tapered from base to top with horizontal or drooping branches. This tree is tolerant of shade and reproduces to form thick stands on favorable sites. Its growth is slow; trees over 1,000 years of age have been reported.

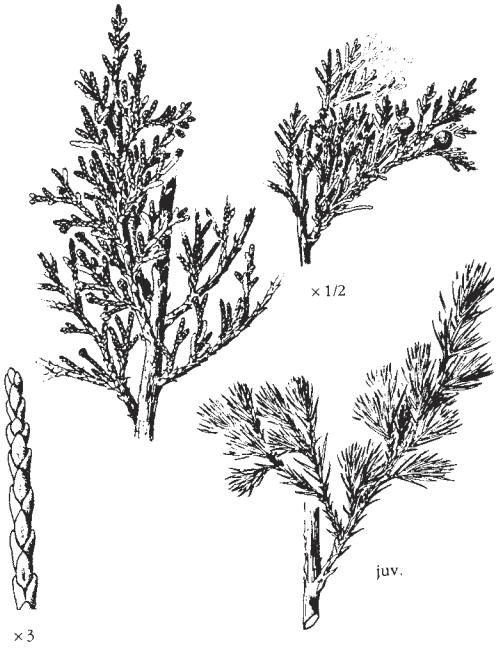
Leaves: Scale-like, 1/8-1/4 inch long, overlap in sequence; branchlets form flat sprays.

Cones: Leathery or somewhat woody, 1/2 inch long, composed of 8-12 thin, spinetipped scales arranged in opposite pairs.

Bark: Thin, 1/2-1 inch, stringy, fibrous, with narrow ridges; cinnamon-red to gray-brown on old trunks.

Rocky Mountain Juniper

(Juniperus scopulorum)



This tree varies from a bushy shrub to a tree 50 feet tall. The trunk is short and stout, often divided near the ground. The crown is generally dense, although the branches may become long, slender and drooping. These trees often are infected by a rust fungus that forms galls 1/2-1 inch in diameter.

Leaves: Scale-like, about 1/8 inch long, pointed; arranged in opposite pairs along the stems; ashy green on some trees, green or yellow-green on others; branchlets slender. Juvenile leaves awl-shaped (see illustration).

Cones: Berry-like, one or two seeded, blue-green or green about 1/4 inch in diameter, take two years to mature.

Bark: Thin, fibrous, stringy, red-brown or gray-brown in color.

Pacific Yew

(Taxus brevifolia)

A shrub or small tree rarely over 15 feet tall. It grows in moist soil and withstands shade. Illness and deaths among cattle have been attributed to eating the foliage of this plant in large quantities.

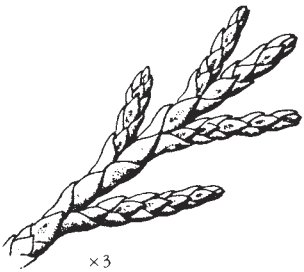
Leaves: 1/2-1 inch long, single, flat, pointed, green above and paler beneath; tapered at base into a short stalk.

Cones: Single seeded of a hard, bony seed, surrounded by fleshy tissue that is green when young but becomes scarlet when mature. This berry-like structure is a modification of a cone and is not directly comparable to the fruits of flowering plants.

Bark: Very thin, 1/4 inch, scaly, dark purple-brown in color. Source of a drug used in treatment of some kinds of human cancer.

Creeping Juniper

(Juniperus horizontalis)



Most common in eastern Montana, this prostrate shrub forms small or large mats, often 3 to 4 feet in diameter. Often found growing in a colony forming a complete cover on an area of 40 feet or more in diameter. The branches creep on the ground with upright tips, none of which is more than 12 inches above the ground. This native shrub is very similar to the Rocky Mountain juniper, but can usually be distinguished on-site by its creeping habit. Isolated fragmentary specimens, however, are not usually distinguishable.

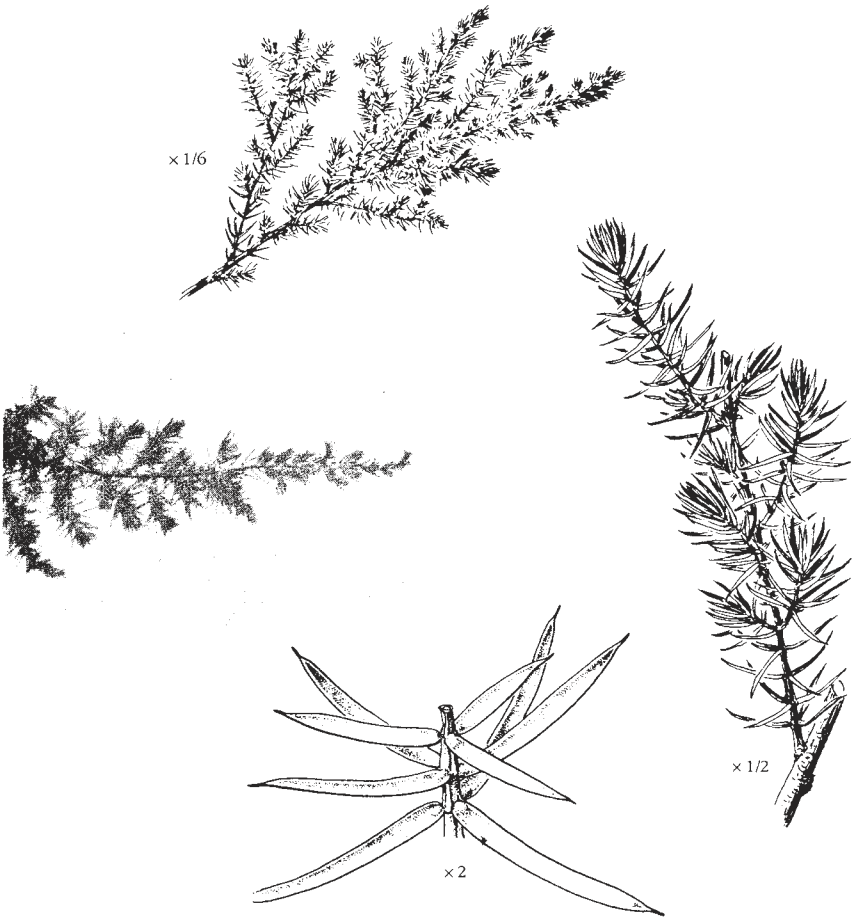
Leaves: Scale-like, about 1/8 inch long, pointed; color from yellow-green to deep green.

Cones: Berry-like, green or blue, about 1/4 inch long; seeds commonly three or four.

Bark: Thin, somewhat fibrous, brownish red or gray, often discolored on side of stem in contact with soil.

Community (Common) Juniper

(Juniperus communis)



A shrub 2 to 4 feet high with a broad-spreading form, the branches rising at ground level. Some forms are silvery in color, especially those in sandy, grassy areas, while other forms are green. It is usually distinguished from other Montana junipers by its sharp-pointed leaves that spread out from the stems. Widely found in mountains, foothills and floodplains.

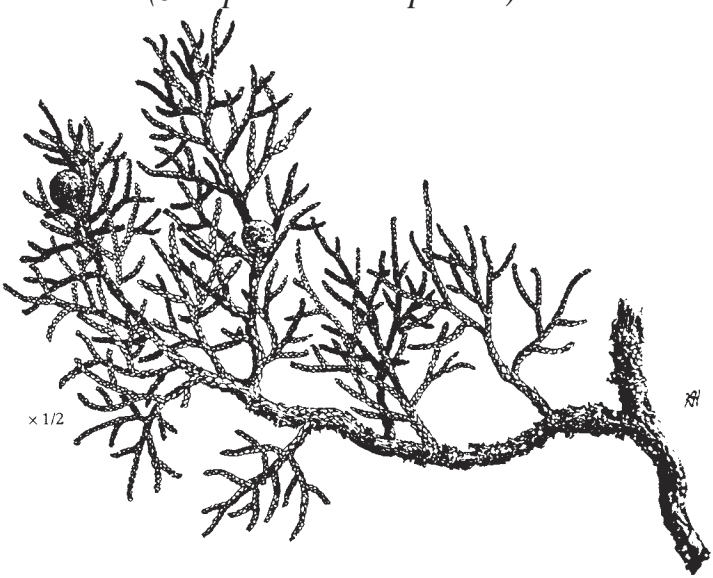
Leaves: Awl-shaped, about 1/2 inch long, strongly convex on lower surface and grooved above; in whorls of three; deep green to yellow-green or silvery.

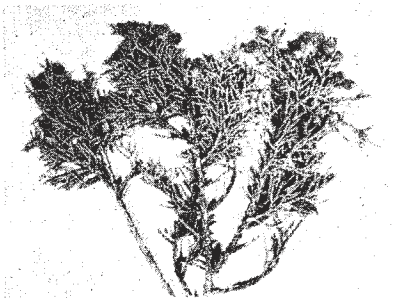
Cones: Berry-like, globular, about 1/3 inch long, bright blue or covered with a whitish bloom; seeds, one to three.

Bark: Brownish-red, thin, shredding into plates or strings.

Utah Juniper

(Juniperus osteosperma)





This juniper is a small tree or shrub about 6 to 15 feet tall. It is widespread in The Great Basin, but in Montana is occurs only in the south-central counties, mainly in Carbon County. The trunk is often crooked and single or with several stems forming a rounded clump.

Leaves: Scale-like, 1/16 to 1/8 inch long or less, arranged in twos or more commonly threes around the small stems; yellow-green, usually with a dark, glandular dot on the back; branchlets stubby.

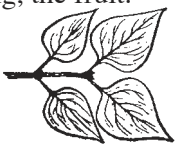
Cones: Berry-like, rounded or oblong, about 1/3 inch long, copper to pale blue in color beneath the whitish waxy coating. Seeds one or rarely two, very hard (bony) and bicolored (brown and white), surrounded by a sweet pulp.

Bark: Thin, ashy gray, ridged and scaly.

Key to Broadleaved Trees

The broadleaved trees have flowers, which in most of the trees are not showy. Their seeds are enclosed in a dry or fleshy covering, the fruit.

1. Leaves in pairs directly opposite each other.....



2. Leaf blade of one part (simple), small tree or shrub.....

Rocky Mountain Maple
page 45

2. Leaf with several leaflets (compound), small trees

3. Leaflets, three or five; margins with coarse teeth; one- to two-year twigs green.....

Boxelder
page 46

3. Leaflets five, seven or nine; fine-toothed; twigs gray.....

Green Ash
page 47

1. Leaves alternating, not directly opposite each other.....

4. Leaf with several leaflets (compound).....

Green's Mountain Ash
page 42

4. Leaf undivided.....

5. Leaf edges rolled under, lower surface woolly-hairy.....

Curlleaved Mountain Mahogany
page 44

5. Leaf edges flat, lower surface not woolly

6. Stems thorny (thorns are pointed, dwarfed branches)

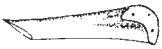
7. Thorns smooth, shiny, on sides of stem.....

Black Hawthorn
page 43

7. Thorns rough, at tips or sides of stem.....

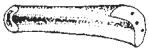
American Plum
page 40

6. Stems not thorny

8. Petiole (stalk of leaf) flattened 

9. Buds not sticky..... **Quaking Aspen**
page 35

9. Buds sticky with resin..... **Plains Cottonwood**
page 34

8. Petiole (stalk of leaf) cylindrical or channeled 
Go to number 10, at left below.

10. Buds sticky with resin, fragrant when crushed

11. Leaf blades whitish or gray beneath, sharply contrasted with upper green surface..... **Black Cottonwood**
page 32

11. Leaf blades light green beneath, the two surfaces not sharply contrasted..... **Narrowleaved Cottonwood**
page 33

10. Buds not sticky when crushed, not fragrant

12. Bark on trunk white, twigs brown..... **Paper Birch**
page 37

12. Bark on trunk whitish green to black, twigs variously colored

13. Bud scale, one, forming a cap over bud.....

Willow
page 31

13. Bud scales, two or more.....

14. Sides of leaf base unequal, one side larger; bark on trunk ridged and having alternate tan and brown layer.....

American Elm
page 39

14. Sides of leaf base equal; bark not layered as above

15. Buds raised on short stalks; usually some old cone-like structures from previous season on tree.....

Thinleaved Alder
page 38

15. Buds not stalked; old cone-like structures usually not present

16. Bark shiny brown, spotted with small, corky streaks crosswise on older stems; twigs resinous-roughened.....

Water Birch
page 36

16. Bark gray or dull brown with oval to circular, corky spots or none; twigs not resinous-roughened.....

17. Fruit 1/2 inch or larger; flowers and fruit stems attached together in one group.....

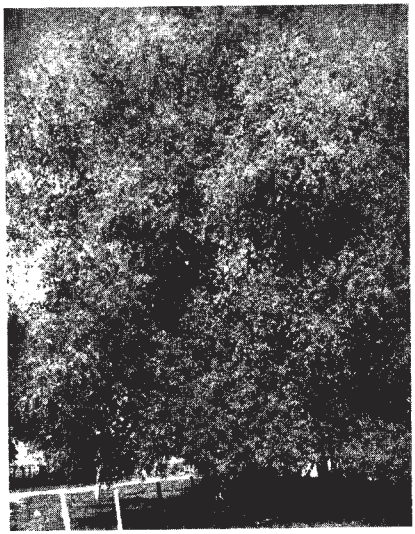
American Plum
page 40

17. Fruit under 1/2 inch in diameter; flowers and fruit attached separately along sides of a central axis.....

Common Chokecherry
page 41

Peachleaved Willow

(Salix amygdaloides)



There are many kinds of native willows in Montana, but most of them do not reach tree size. Of the few species that may appear as a tree, the peachleaved willow is the most abundant and widespread. Usually 30 to 50 feet tall and as much as two feet in diameter, with rounded crowns.

Leaves: 2-5 inches long and $^{3}/_{4}$-$1^{1}/_{2}$ inches wide, long, pointed; light green and lustrous above, pale and dull beneath.

Bark: Brown, $^{1}/_{2}$-$1^{3}/_{4}$ inches thick, irregularly furrowed.

Black Cottonwood

(Populus trichocarpa)

Black cottonwood, which grows up to 120 feet, is the largest of our cottonwoods. Its trunk is commonly free of branches up to one-half its height. It has broad, oval-shaped crowns when grown in open sites. It grows on moist soils along water courses.

Leaves: 3-7 inches long and 3-4 inches wide; broad, rounded at base; thick, leathery; deep, shiny green on upper surface, very veiny and silvery white on lower surface.

Bark: Smooth and greenish on young stems; becomes gray and sharply furrowed, 1 to 2½ inches thick as the tree ages.

Narrowleaved Cottonwood

(Populus angustifolia)

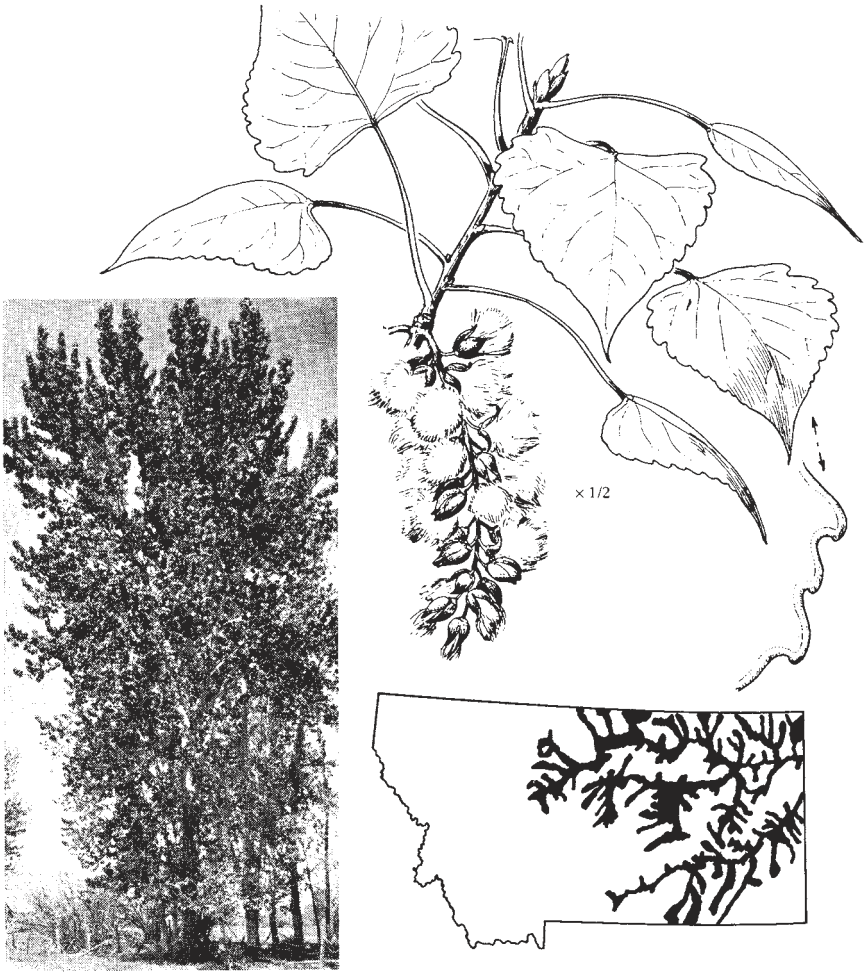
This is a medium-sized tree 50 to 70 feet tall. Like the other cottonwoods, it grows in moist places, along streams and rivers and about lakes.

Leaves: 2-6 inches long and 3/4 to 1 1/2 inches wide; smooth and yellow-green on the top, smooth and pale on the bottom; thin and firm in texture. Leaf stems are short, slender and slightly flattened or channeled on the upper side.

Bark: Smooth, unbroken and pale green on young trees; light gray-brown and brown on older trees.

Plains Cottonwood

(Populus deltoides)



This is a large tree 60 to 90 feet tall and trunk often 6 to 7 feet in diameter. It has a broad, open crown with stout, erect, spreading branches. Like all cottonwoods, it grows only where there is an abundance of soil moisture.

Leaves: Broadly triangular, 3-6 inches long and usually slightly longer than broad. The leaf stalk is flattened, slender and $2^1/_2$-$3^1/_2$ inches long. The leaf has a round-toothed, thickened margin.

Bark: Gray and smooth on young trees; thick, ash gray and furrowed on older trees.

Quaking Aspen

(Populus tremuloides)

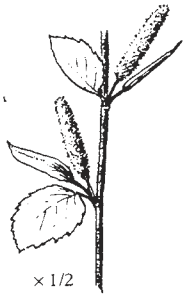
This tree is called quaking aspen because its leaves tremble in the slightest breeze. It is usually found at high elevations where moisture is available. In exposed places, it is greatly stunted but on favorable sites it grows in pure stands, and the trees have straight trunks clean of branches for two-thirds of their length. The wood is soft and light but will decay quickly unless treated.

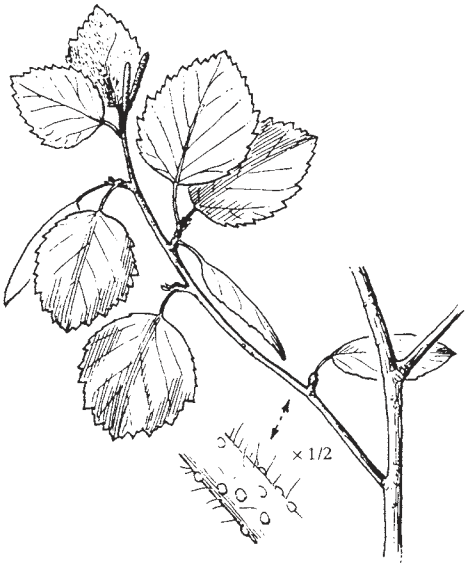
Leaves: Small and rounded, 1½-3 inches in diameter, with fine, tooth-like margins. Green and shiny above, dull or pale below. Turn golden yellow in autumn.

Bark: Thin, gray-white to cream-colored; often marked by dark wart-like swellings. Becomes dark and furrowed near the bases of old trees.

Water Birch

(Betula occidentalis)





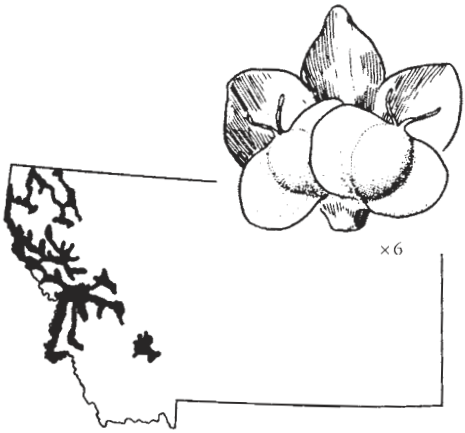
This is a shrub or small tree 20-25 feet tall, sometimes called red birch, that grows along stream courses and on moist sites. It has a broad, open crown with graceful, ascending branches. Frequently, it is found in dense thickets.

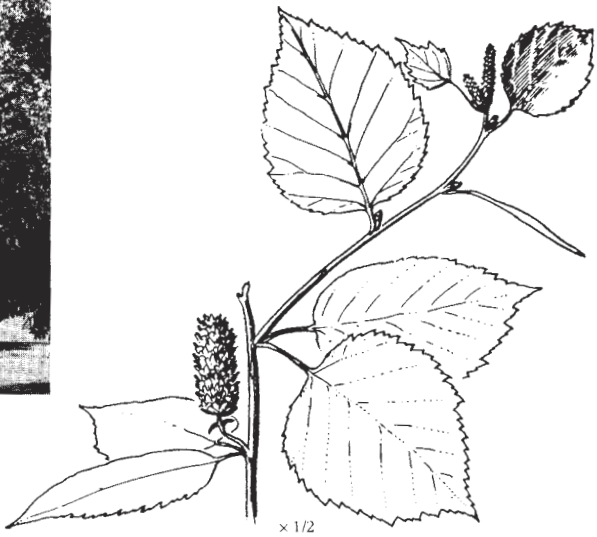
Leaves: Ovate, margins evenly or doubly toothed, thin and firm; dark green above, pale yellow-green below. Leaf stalk rather thick and short, stout, 1/3-1/2 inch long.

Bark: Thin, 1/4 inch thick, smooth, lustrous, dark bronze, with horizontal corky lines.

Paper Birch

(Betula papyrifera)





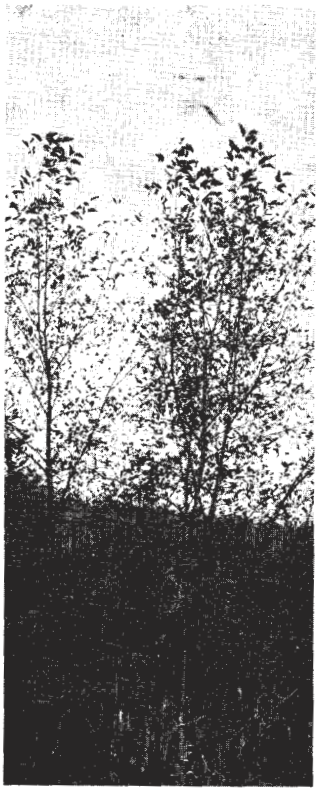
Paper birch is a beautiful tree growing 60 to 80 feet tall. It cannot stand shade and takes over extensive areas after fires. It was used by Indians for making canoes and baskets.

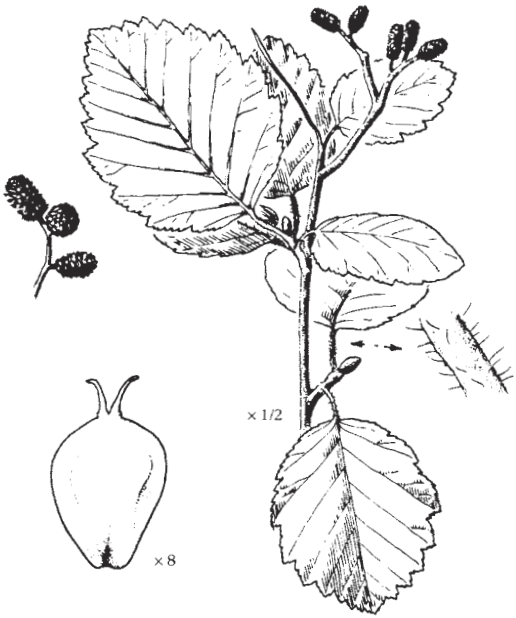
Leaves: Ovate, 2-5 inches long and 1-2 inches wide, usually rounded at the base, margins densely toothed; dark green and shiny above, yellow-green below.

Bark: Cream white; separating into thin, papery layers, marked by long, narrow, horizontal, dark, corky lines; inner bark orange.

Thinleaved Alder

(Alnus incana)





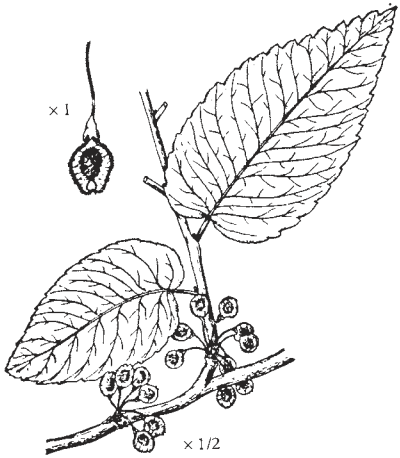
Thinleaved alder is a shrub or small tree 30 feet tall with an open crown and wide-spreading, ascending branches. It grows on moist, well-drained sites such as the banks of mountain streams and canyons. Abundant water is necessary for its success. Usually dark, cone-like fruiting structures remain attached to the branchlets.

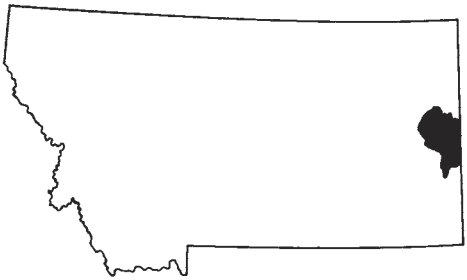
Leaves: 1½-4 inches long and 1-2½ inches wide, broadly ovate, slightly hairy on the upper surface and woolly along the veins of the lower surface; edges have coarse teeth pointing upward. Leaves are deep grass-green on upper surfaces, light yellow-green below.

Bark: Thin, dull gray to brown, smooth except at the base of trunk of large trees.

American Elm

(Ulmus americana)





American elm is a large, majestic tree in the eastern United States but rather small in its occurrence in eastern Montana. The trunk is usually divided into several erect limbs forming a symmetrical, vase-shaped crown. It is found on moist land particularly along streams. Dutch elm disease, which has spread gradually across the United States, poses a threat to this species. American elm is native in extreme eastern Montana and has been used extensively for boulevard planting elsewhere.

Leaves: 3-6 inches long, 1-3 inches wide, unequal at the base; margins coarsely double-toothed; dark green and rough to touch above, pale and slightly hairy below; turns clear yellow in the autumn.

Bark: 1-1 1/2 inches thick, ashy gray, divided by fissures into broad ridges.

American Plum

(Prunus americana)

A shrub or small tree up to 25 feet tall with a trunk 3-8 inches in diameter that branches near the ground or sometimes at the 3- to 6-foot level. The crown is broad, with many spreading branches.

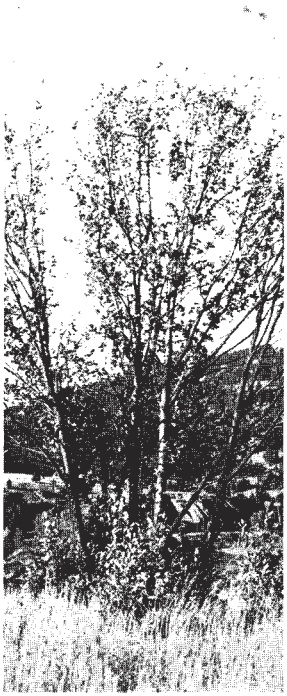
Leaves: Oval or elongate, 2-3½ inches long and 1-1¾ inches wide, with a pointed tip. The edges are sharp and often double-toothed. The surfaces are dark green above and somewhat pale below, without hairs.

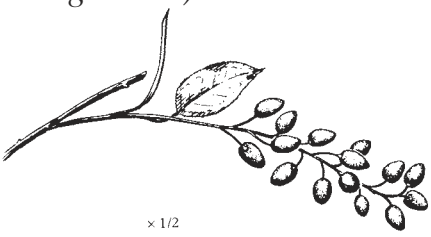
Fruit: Oval to spherical, about 1 inch in diameter; red and often spotted in maturity; thick-skinned; fleshy, bright yellow, juicy; pit flattened. Used for jellies.

Bark: Up to ½ inch thick, dark brown, tinged with red; outer layer forms into plates on older trunk.

Common Chokecherry

(Prunus virginiana)





× 1/2

Found on mountain slopes, stream borders and dry hills throughout Montana. It is more often a shrub than a tree, usually with a crooked trunk and a spreading crown; often forms dense thickets. Rarely over 30 feet tall in Montana.

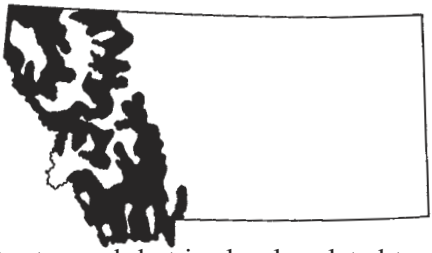
Leaves: 2-4 inches long, 1-2 inches wide, ovate, sharp or taper-pointed at the tip, rounded at the base; margins finely toothed; dark green above, pale and somewhat hairy beneath, bearing a pair of glandular bumps on the leafstalk just below the base of the blade. Poisonous to livestock when young, but rarely eaten.

Fruit: 1/4-1/3 inch in diameter, in dense clusters. Bright red, scarlet or nearly black; thick skin, juicy; can be eaten or made into syrup, jelly or wine.

Bark: Thin, red-brown, slightly furrowed with tan marks; very bitter to the taste.

Green's Mountain-Ash

(Sorbus scopulina)



Green's mountian-ash is not a true ash but is closely related to apples and pears. It is a small tree or large shrub, usually growing in mountain canyons. Its principal uses are for ornamental planting and for wildlife food. It produces clusters of red to bright orange fruits in autumn, and the fall foliage color is bright and showy. Another native species, the Sitka mountain-ash (*S. sitchensis*), is shrubbier and occurs mostly in northwestern Montana. The most commonly cultivated mountain-ash in Montana is the European mountain-ash (*S. aucuparia*).

Leaves: Occur alternately, 4-6 inches long with 11 to 17 leaflets 1-2 inches long and 1/2-1 inch wide, taper-tipped or lance-shaped; colored orange-red in autumn.

Fruit: Berrylike, 1/4 inch in diameter, bright reddish-orange, in flat clusters.

Bark: Thin (1/8 inch), reddish brown; smooth or slightly roughened by scales.

Black Hawthorn

(Crataegus douglasii)

Black hawthorn is usually a shrub but under favorable conditions it can become a small tree. It rarely gets more than 35 feet tall. It has a round-topped crown with spreading branches that slant upward. Usually, it has thorns 1/3-1 inch long on the branchlets.

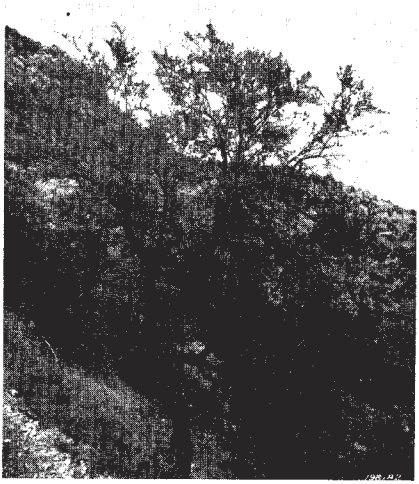
Leaves: Broad, ovate, thick, somewhat leathery; round or pointed at the tips; wedge-shaped at the base, coarsely sawtoothed toward the tips, dark green above, paler below; usually cut into unequal lobes. Leaves are often spotted with orange-colored, diseased areas. This rust disease spends part of its life on hawthorn and part on the juniper, where it has a conspicuous, slimy growth in the spring when discharging spores. This slimy growth later becomes a gall.

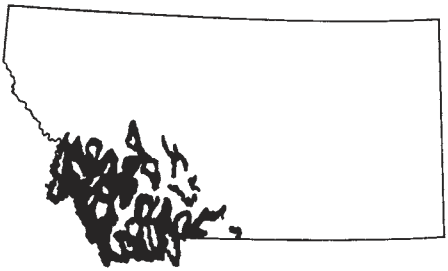
Fruit: About 1/2 inch in diameter, usually in clusters of eight or 10, the flesh sweet and succulent; containing about five seeds.

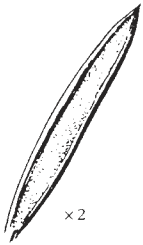
Bark: Gray, or shiny-red to brown on young twigs.

Curlleaved Mountain Mahogany

(Cercocarpus ledifolius)







A shrub or small tree rarely over 20 feet tall. The trunk is short and crooked with a round, compact crown composed of crooked and spreading branches. Usually grows on dry, gravelly limestone areas. Very dense, hard wood.

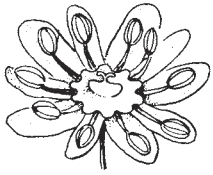
Leaves: Evergreen, 1/2-1 inch long, 1/3-2/3 inch wide, thick and leathery, margins smooth and curled toward the lower side; dark green and shiny above, pale and densely hairy beneath.

Fruit: One-seeded and grain-like, covered with long hairs, tipped with a hairy, elongated style 2-3 inches long.

Bark: As much as 1 inch thick on old trunks, thin on smaller plants and branches; red-brown, hard, flaky.

Rocky Mountain Maple

(Acer glabrum)



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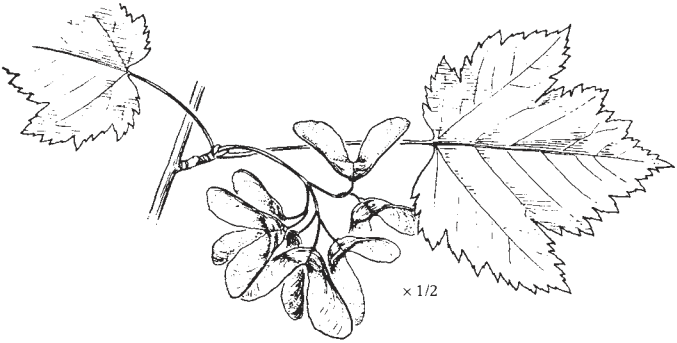


× 1/2

This species is a shrub or small tree 20-30 feet tall with a trunk diameter up to 8 inches. It often grows along mountain streams and on sides of canyons. Rocky Mountain maple, often called dwarf maple, is a striking feature of mountain sides in autumn after the leaves have taken on their varied coloration.

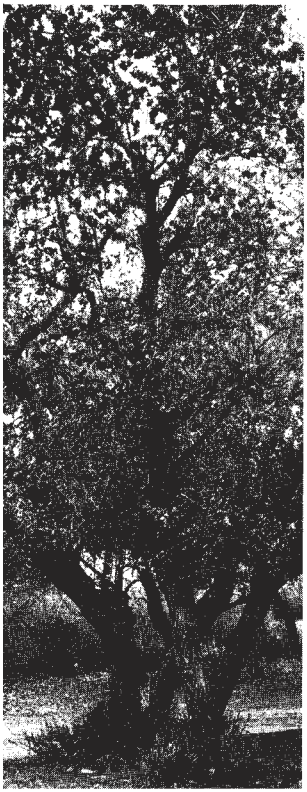
Leaves: 2-4 inches broad, about as long as broad, rounded in outline, distinctly divided into three to five lobes; thin, dark green above, paler below. Brilliant red, thickened areas, resulting from mite damage, are very common on Montana Rocky Mountain maple leaves.

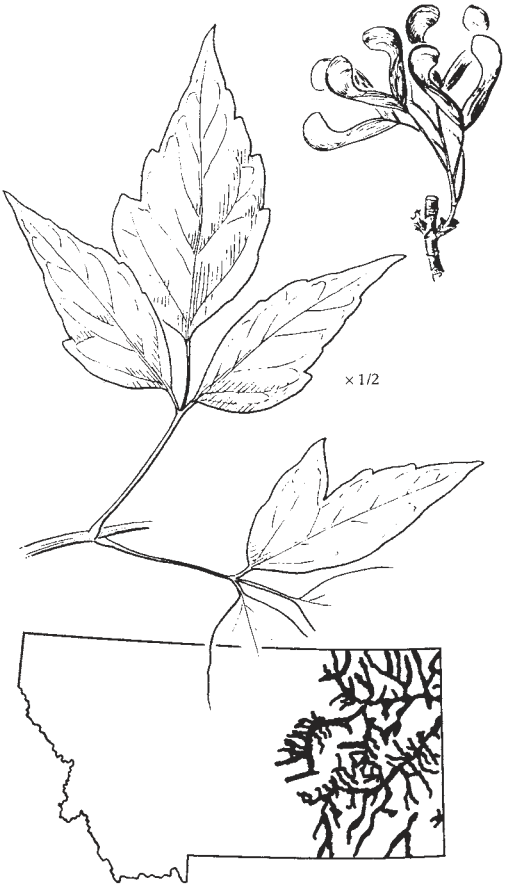
Fruit: Symmetrically double, slightly spreading with elongate, broadened wings, 3/4-1 inch long, often rose-colored in summer.

Bark: Thin, smooth, dark red-brown.

Boxelder

(Acer negundo)





A small tree rarely over 40 feet tall and with a trunk diameter of about 1 foot. The trunk is usually irregular and divided 3-6 feet above the ground. When grown in the open, the crown is round, the branches widespread. This tree is a close relative of maples, but differs in that its leaves are divided into three or occasionally as many as seven leaflets.

Leaves: Compound, of three distinct leaflets (sometimes five or seven); leaflets 1½-4 inches long, 1½ -2 inches wide, margins coarse and irregularly toothed above the middle; light green and smooth above; pale and hairy beneath.

Fruit: A double-winged fruit, united at base; 1-2 inches long.

Bark: Gray, firm, ½ inch or less thick, deeply divided by furrows into broad rounded ridges.

Green Ash

(Fraxinus pennsylvanica)

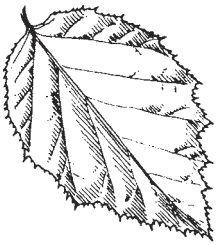
The green ash is a meduim-sized, usually round-topped tree 30-50 feet tall with slender, spreading branches. Although usually found along the banks of streams, it also is relatively drought tolerant and is often planted for windbreaks and beautification purposes.

Leaves: With seven to nine leaflets, usually seven. Leaflets 2-4 inches long, and 1½ inches wide. Long, pointed tips, finely toothed margins. Bright green on both surfaces.

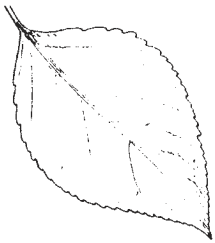
Fruit: Single-seeded, with a long, narrow wing, 1-2½ inches long.

Bark: Gray to brown, tinged with red, slightly furrowed, ½-⅔ inch thick.

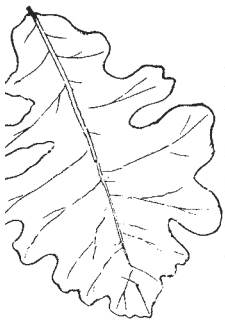
Other Trees



Mountain Alder *(Alnus viridis)*-This tree or shrub is very similar to thinleaved alder but differs mainly in that the flowers develop on year-old twigs rather than those of the current season. The fruiting cones are borne on stalks shorter than the cones, and the individual fruits, sometimes incorrectly referred to as seed, are not winged. Grows along streams in the mountains of western Montana.



Lanceleaved Cottonwood *(Papulus x acuminata)*-Very similar to the narrowleaved cottonwood. The main difference is a leafstalk three-quarters the length of the blade and the blade less than twice as long as wide with a somewhat rounded base. This tree generally is thought to be a hybrid between the narrowleaved cottonwood and plains cottonwood.



Bur Oak *(Quercus macrocarpa)*-This is a variety of the common, large, mossycup oak of the East. The tree is somewhat smaller, as is also the acorn, but otherwise it is similar to the bur oak of the east that is common in Montana city planting. It is native to extreme southeastern Montana.

Hawthorn-These additional species of hawthorn are also known to be in Montana, and there may still be others:

Columbia Hawthorn.....*Crataegus columbiana*
Fleshy Hawthorn.....*Crataegus succulenta*
Yellow Hawthorn.....*Crataegus chrysophyta*

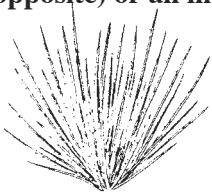
The species of hawthorn hybridize where they occur in the some range, making identification difficult.

Siberian Elm *(Ulmus pumila)*-Dense, fast-growing tree adapted to a wide range of conditions; branches usually brittle, but corrective pruning can minimize wind breakage. Severe fall and winter freezes can cause extensive damage. Is 25-30 feet tall at maturity; fair to good cold-hardiness.

Key to Broadleaved Shrubs

Shrubs are woody plants that branch freely from near the soil level. Some woody plants are intermediate between trees and shrubs. Others are shrubs under certain conditions of the habitat but under other conditions are trees, and described as such in the section on broadleaved trees. Only about one-fifth of Montana's shrubs are listed in this publication.

1. Leaves and buds in pairs at each stem joint (opposite) or all in a basal tuft.



2. Leaves sword-shaped, about 1 foot long, all in a basal tuft.....**Yucca**
page 69

2. Leaves under 1 foot long, not sword-shaped, arranged along the stem

3. Leaves compound (blades divided into leaflets)...**Black Elderberry**
page 58

3. Leaves simple (the blade not divided)

4. Thorns present (actually sharp-pointed side branches).....**Buffaloberry**
page 55

4. Thorns not present (lateral branches not pointed)

5. Leaves silvery-green, covered with hairs...**Nuttall's Saltbush**
page 64

5. Leaves green, not covered with hairs

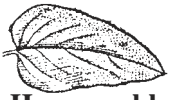
6. Shrubs 2-3 feet tall; bark light brown or gray....**Snowberry**
page 67

6. Shrubs 4 feet or taller, or if low, then the bark red

7. Twigs green, tan or whitish

8. Buds large (1/2 inch or longer); leaves broadly heart-shaped; pith white, solid.....**Lilac**
page 60

8. Buds small (under 1/2 inch), leaves oval pith brown and hollow..... . .



Honeysuckle
page 59

7. Twigs, or at least part of them, red

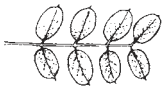
9. Leaves deeply lobed (maple-leaf-shaped)..... **Rocky Mountain Maple**
page 45

9. Leaves not lobed.....

Red Dogwood
page 58

1. Leaves and buds one at each stem joint (alternate)

10. Spines, thorns or short, spiny branches present



11. Leaves compound (blade composed of several leaflets)..... **Caragana**
page 56

11. Leaves simple (leaf blade all one part)

12. Thorns smooth, deep brown..... **Hawthorn**
page 43, 48

12. Thorns rough

13. Bark brown or gray on young branches...**American Plum**
page 40

13. Bark white or tan or green

14. Leaves fleshy, cylindrical to somewhat flattened; shrubs mostly over 2 feet tall..... . . .

Black Greasewood
page 59

14. Leaves not fleshy, oval; shrubs mostly under 2 feet.....

Shadscale
page 66

10. Spines, thorns or spine-like branches absent

15. Leaves compound (blade composed of several leaflets)

16. Leaflets five or fewer

17. Leaflets fine-toothed or smooth.....**Shrubby Cinquefoil**
page 57

17. Leaflets with three or more deep lobes or coarse teeth.....

Skunkbrush
page 65

16. Leaflets seven or more

18. Leaflets smooth-margined; young twigs green, pliable.....**Caragana**
page 56

18. Leaflets toothed; young twigs woody and rigid.....

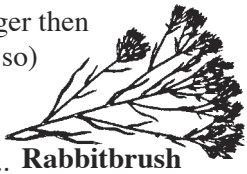
Mountain Ash
page 42

15. Leaves simple (the blade not divided into leaflets)

19. Shrubs 4 feet or taller, one bud scale forming a covering cap over bud.....

Willow
page 69

19. Shrubs of various heights, bud scales two or more

20. Leaves linear (10 or more times longer then wide and the sides parallel or nearly so) 

21. Woody stem extending at least 6 inches above ground ..... **Rabbitbrush**
page 62

21. Woody stem basal, the current season's growth dying back to a knotted base.....**Broom Snakewood**
page 66

20. Leaves not linear, oval to circular or angular

22. Upper surface of leaves silvery from hairs or scales

23. Leaves with three teeth at tip of leaf..... **Big Sagebrush**
page 62

23. Leaves not having large teeth or lobes at tips

24. Leaves silvery from scales; upright shrub usually 6 feet or taller.....

Russian Olive
page 61

24. Leaves silvery from hairs; shrubs 3 feet or lower

25. When crushed, leaves give a sagebrush fragrance.....**Silver Sagebrush**
page 63

25. Leaves not giving a sagebrush fragrance.....**Gray Horsebrush**
page 60

22. Upper surface with or without hairs but not silvery

26. Leaves densely hairy beneath, the lower surface hidden by hairs

27. Leaves with three prominent teeth across the tip.....

Antelope Bitterbrush
page 55

27. Leaves with smooth margins.....**Curlleaved Mountain Mahogany**
page 61

26. Leaves variously hairy or without hairs, but the lower surface not hidden

28. Leaf marginal teeth all about the same size, not lobed

29. Leaf with a narrow, extended tip.....**Chokecherry**
page 56

29. Leaves rounded over the tip

30. Leaf broadly oval to circular, marginal teeth prominent only on upper half of leaf.....
Serviceberry
page 65

30. Leaf narrowly oval; teeth not prominent but often evident.....

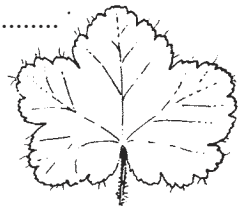
Sandcherry
page 64

28. Leaf unequally toothed or lobed

31. Leaves not having three main veins from the base of blade.....
Mountain Spray
page 68

31. Leaves with three main veins from the base of the blade

32. Glandular hairs (hairs with knob-like tips) present on leaves and young twigs; bark on main stem not shredding.....



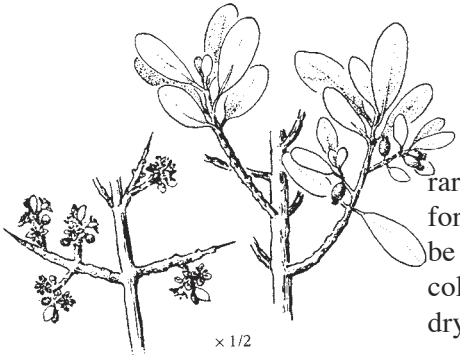
Sticky Currant
page 57

32. Glandular hairs not present, bark shredding into long strips.....

Ninebark
page 61

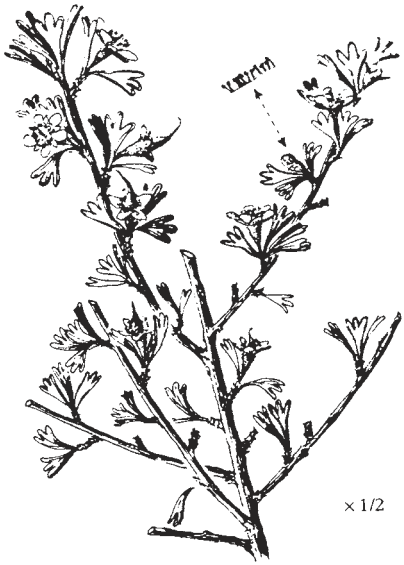
Shrubs
General Characteristics

Mountain Ash
(See page 42)



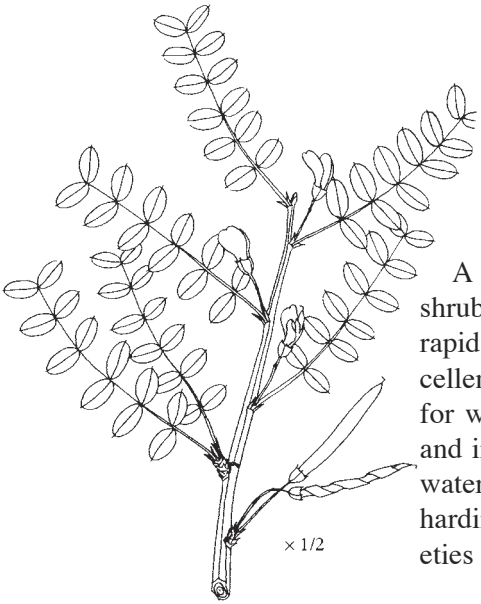
Buffaloberry
(Shepherdia argentea)

A bushy, silvery shrub or small tree rarely more than 15 feet tall, thicket-forming. Excellent for wildlife; fruit can be used for making jelly; has excellent cold-hardiness and good response to both dry and moist sites.



Antelope Bitterbrush
(Purshia tridentata)

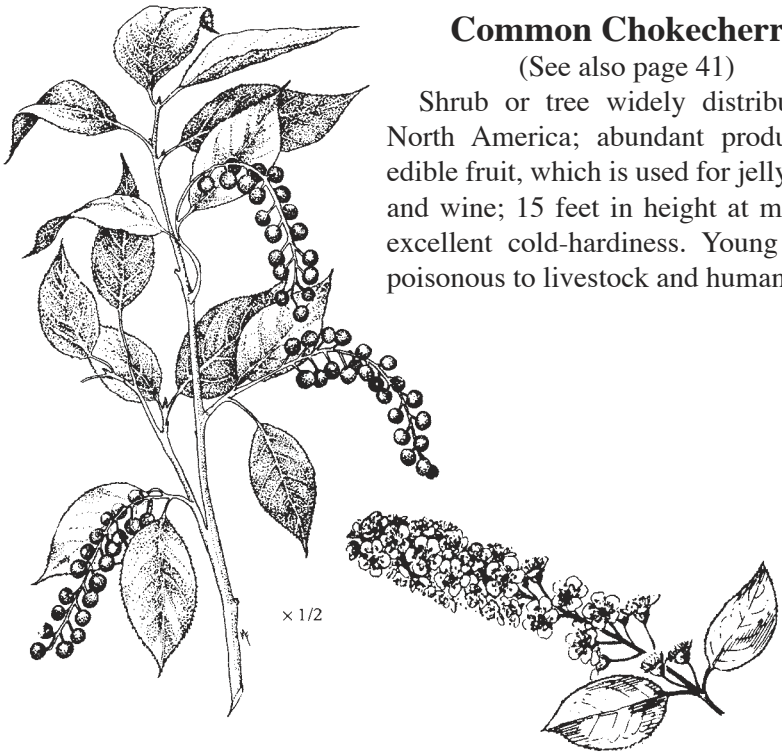
Grayish green, intricately branched shrub 1½-4 feet tall with brown or grayish bark; leaves small, thick leathery, wedge-shaped, about ¼-¾ inch long, finely white-felty below, three-toothed at tip, side margins slightly inrolled, occurring usually in small bunches on short branchlets; flowers yellow, and ½ inch across with five petals, grow along stems on short branchlets; fruits small , seed-like, narrowed to slender point at tip and tapering to base, borne singly or sometimes in twos.



Caragana

(Caragana arborescens)

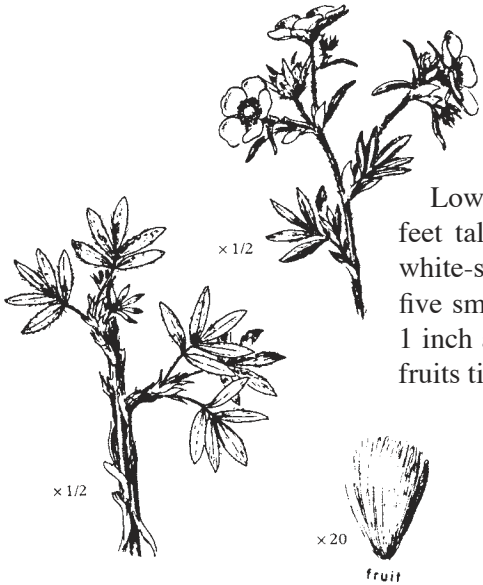
A dense, attractive, many-stemmed shrub with a mature height of 10-12 feet, rapid grower, long life, disease-free. Excellent for outside shrub row and ideal for wildlife. Does well on both dryland and irrigated sites, but response on high water table land is poor. Excellent cold-hardiness. Both spiny and unarmed varieties are available from nurseries.



Common Chokecherry

(See also page 41)

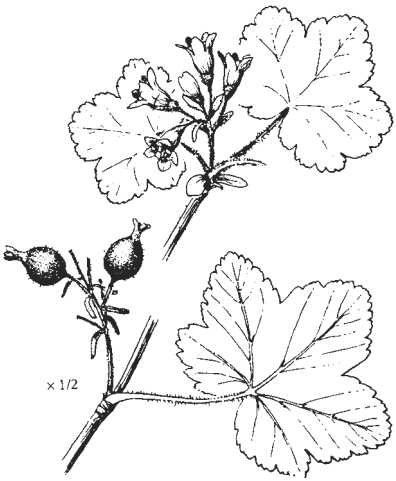
Shrub or tree widely distributed in North America; abundant producer of edible fruit, which is used for jelly, syrup and wine; 15 feet in height at maturity; excellent cold-hardiness. Young leaves poisonous to livestock and humans.



Shrubby Cinquefoil

(Potentilla fruticosa)

Low, widely branching shrub, 1/2-4 feet tall; leaves mostly 1/2-1 inch long, white-silky below, divided into three to five smaller, oblong leaflets; flowers 1/2-1 inch across, five petals, bright yellow; fruits tiny, seed-like.



Sticky Currant

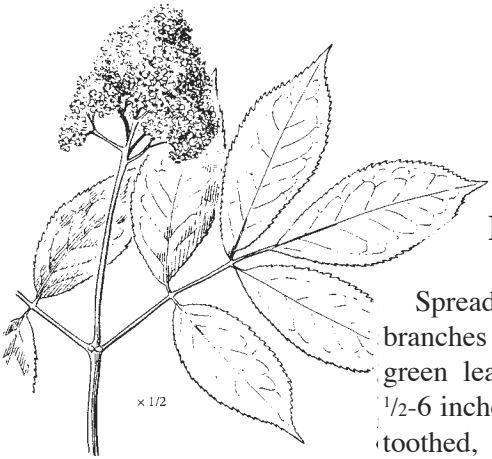
(Ribes viscosissimum)

Spreading, rather stiffly branched, shrub 1-3 feet tall, with shreddy bark and fragrant, sticky foliage; leaves roundish, heart-shaped, 1-2 1/2 inches wide, usually with three broad, rounded lobes, the margins toothed; flower tubes broad, greenish or pinkish lavender, with five lobes half as long as tube, borne in several flowered clusters 1-3 inches long; berries oval, generally ribbed lengthwise, black, smooth or sticky-hairy, about 1/3-1/2 inch in diameter, flower-tube withered but remaining on fruit.

Red Dogwood

(Cornus stolonifera)

Stems bright or purplish red, pliable, sometimes tend to lodge and root at tips; 5-8 feet tall; whitish or bluish berries. Grows along stream banks or moist sites; fair winter-hardiness.



Black Elderberry

(Sambucus racemosa)

Spreading shrubs 10-12 feet tall, with branches reddish brown; 5 to 7 dark green leaflets, oblong, lance-shaped, 3 1/2-6 inches long, long-pointed, coarsely toothed, hairy below when young, becoming smooth later; flowers yellowish white in broadly egg-shaped clusters 2-3 inches across, about as broad as tall; berries black.

Black Greasewood

(Sarcobatus vermiculatus)

Many-branched shrub, 3-5 feet tall, with spine-tipped branchlets; bark white, or grayish or blackish later, leaves alternate, long and narrow, fleshy, rounded below, flat above, 1/2-2 inches long, smooth; stamen-flowers in dense, cylindrical, cone-like clusters at the ends of short branches; flowers small, inconspicuous, greenish without petals, on short branches in leaf-axils, often on different plants than stamen-flowers; fruits small, with thin, wavy, ruffle-like wing around the middle.

Hawthorn

(See pages 43, 48)

Honeysuckle

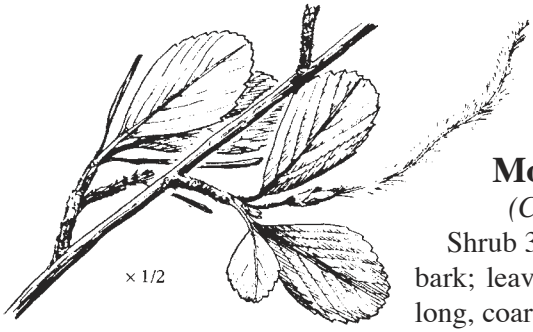
(Lonicera tatarica)

Many-stemmed, attractive, globe-shaped shrub, 8-10 feet tall with numerous pink and white flowers; good wildlife food and cover; not subject to insect or disease damage; excellent cold-hardiness.

Horsebrush

(Tetradymia canescens)

Thickly branched shrub 1/3-2 feet tall with white, felty foliage; leaves 1/4-1/2 inch long, narrow, or with broad tips, densely white felt-covered, bunched at stem joints; flowers yellow, about four to a head, surrounded by four or five bracts at the flower base; heads about 1/2 inch tall, borne in compact, somewhat flat-topped clusters at ends of stems; seed-like fruits smooth or thinly hairy, each with tuft of grayish bristle at tip.



Mountain Mahogany

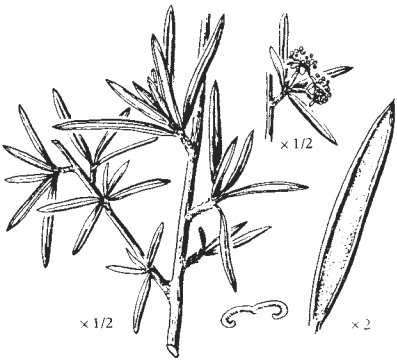
(Cercoparpus montanus)

Shrub 3-9 feet tall with grayish brown bark; leaves somewhat oval, 2-4 inches long, coarsely toothed above the middle, dark green and smooth above, pale and finely fuzzy underneath, rounded or blunt tips, wedge-shaped at base; fruiting styles 2-3 inches long.

Common Lilac

(Syringa vulgaris)

Dense, slow to medium growth; long-lived; 6-10 feet in height; sprouts heavily; occasionally becomes infested with scale insects; excellent cold-hardiness.



Curlleaved Mountain Mahogany

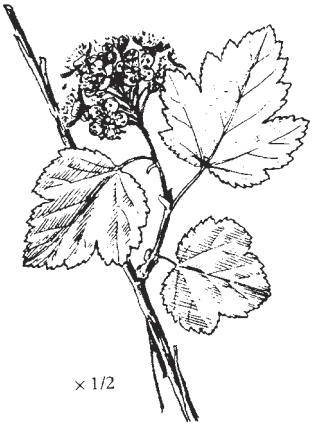
(Cercocarpus ledifolius)

(See page 44)

Evergreen shrub or small tree; leaves alternate, narrowly elliptic, rolled under, leathery, upper surface smooth, lower surface densely woolly; buds small, woolly, in leaf axils; young stems dull reddish brown; older stems gray, furrowed and scaly, pith of irregular shape, light green, less than 1/2 inch of stem diameter; fruit, a seed with feathery tail, often persistent.

Rocky Mountain Maple

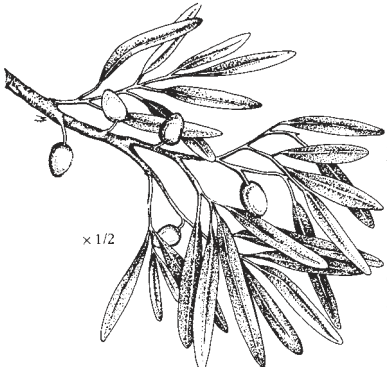
(See page 45)



Ninebark

(Physocarpus malvaceus)

Leaf blades 1-2 1/2 inches long, roundish to broadly oval, green above, pale underneath; leaf stalks 1/3-3/4 inch long; bracts at base of flower stems membranous and scale-like, soon fall. Bark shredding in long strips on mature stems.



Russian Olive

(Elaeagnus angustifolia)

Small tree with dense crown; rapid grower, adapted to a wide range of soil, both dryland and irrigated; widely used and well-liked throughout Montana; 30 feet in height at maturity; excellent cold-hardiness; especially well-suited for wildlife.

American Plum

(See page 40)

Rabbitbrush

(Chrysothamnus viscidiflorus)

Variable species and many varieties; is shrub 1½ to 4 feet tall, stems pale green or white; leaves narrow to oblong, lance-shaped, ¾-2½ inches long, one-to three-nerved or five-nerved variety, often twisted, smooth but sticky; flower heads in broad spreading, oblong to round or flat-topped clusters, flowering branches rather glutinous; involucre about ¼ inch tall, the bracts oblong to long and narrow, boat-shaped, not ridged on back; in poorly-defined, vertical rows; flowers about five to a head; seeds usually densely hairy.

Big Sagebrush

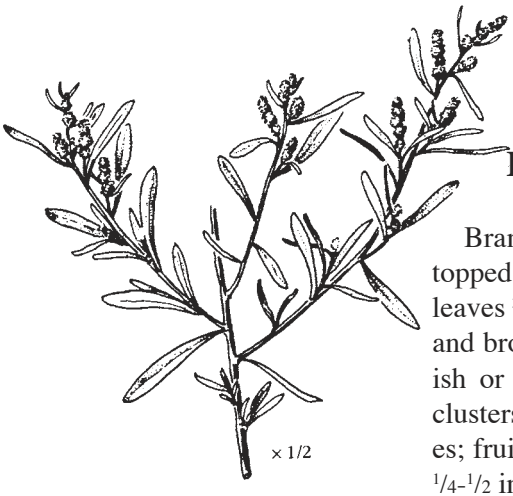
(Artemisia tridentata)

One to 12-foot tall shrub with trunk or several trunk-like branches; has silver gray to whitish foliage with dense, fine hairs; bark, dark brown to nearly black, shred-like; leaves ⅔-1 inch long, narrow, wedge-shaped, generally three-toothed, sometimes as many as five at tip; flowers four to six, sometimes nine, in small heads; heads yellowish or brownish in loose clusters 1-4 inches across.

Silver Sagebrush

(Artemisia cana)

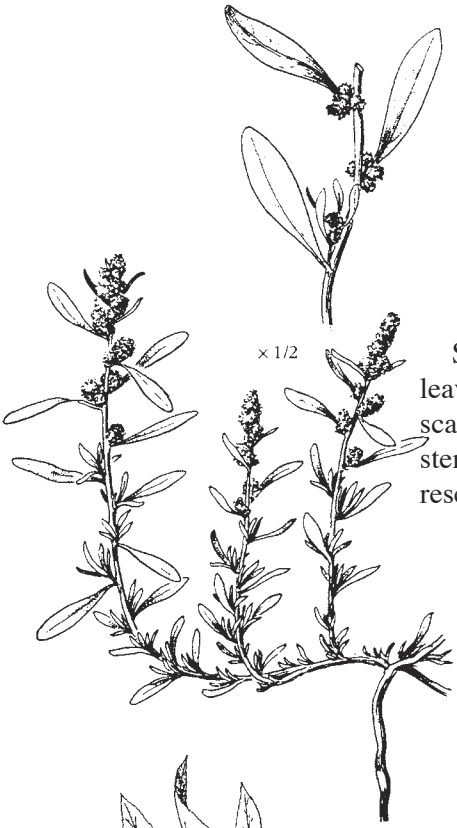
Silver-gray to yellowish shrub 1-3 feet tall. Has turpentine-like odor; stems branch freely to form rounded bushes, older stems have dark brown fibrous bark; leaves silky-haired, 2/3-3 inches long, narrow, with pointed tips; flower heads yellowish in narrow leafy clusters 5-12 long, 2/3-2 inches wide.



Fourwinged Saltbush

(Atriplex canescens)

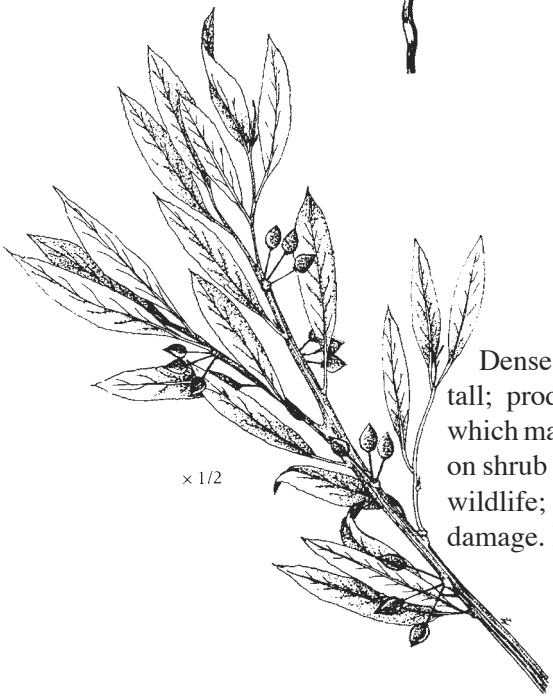
Branched shrub, 1-5 feet tall, round-topped with grayish, white foliage; leaves 3/4-2 inches long, narrowly oblong and broader at tip, fuzzy; flowers greenish or yellowish, very small in dense clusters in leaf axils or on short branches; fruits small and seed-like with wings 1/4-1/2 inch long and 2/3 as broad.



Nuttall's Saltbush

(Atriplex gardneri)

Semi-prostrate half-shrub, evergreen; leaves alternate, oval-shaped, scurfy or scaly; buds naked, inconspicuous; young stems herbaceous, scurfy; fruit knobby, resembling beet seeds.



Sandcherry

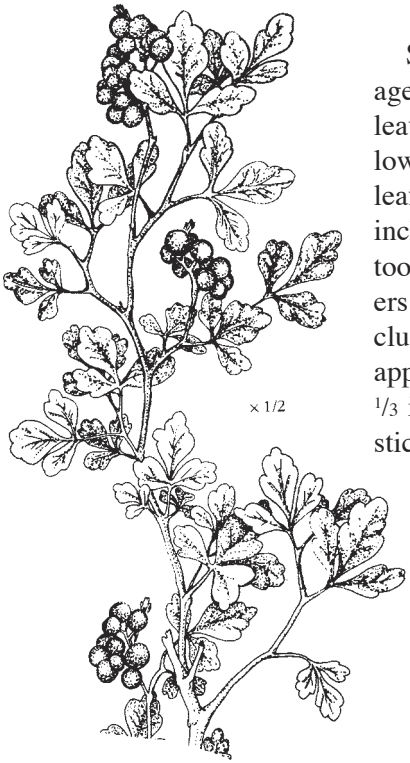
(Prunus besseyi)

Dense shrub with fast growth; 5 feet tall; producer of abundant edible fruit, which makes excellent jelly; fruit remains on shrub through winter and excellent for wildlife; not subject to insect and disease damage. Has good winter-hardiness.

Serviceberry

(Amelanchier alnifolia)

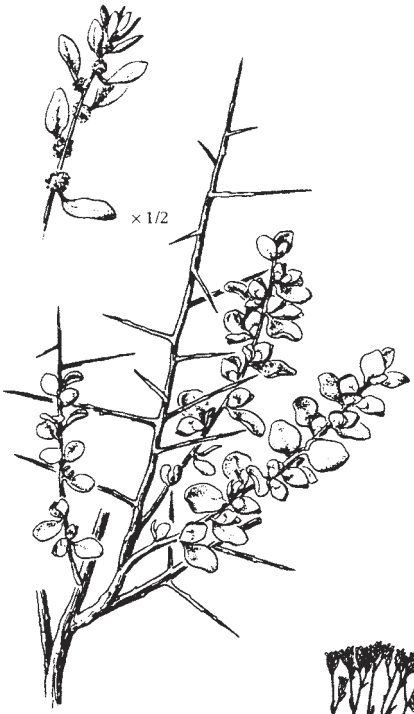
Height 2-15 feet; bark reddish brown, grayish when older; branchlets hairy; leaves oval to roundish, 3/4-1 1/2 inches long, dark green, woolly or hairy underneath when young, generally becoming smooth with age; flower clusters short and dense; petals white about 1/2 inch long; flower stems usually hairy or silky; berries 1/4-3/8 inch, dark purple when mature.



Skunkbrush

(Rhus trilobata)

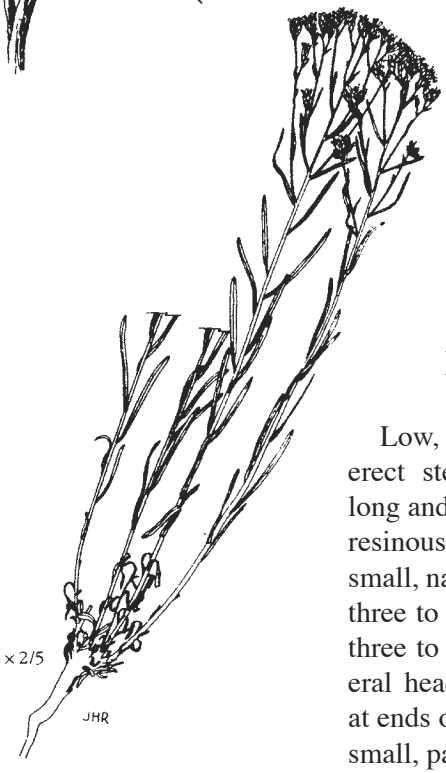
Spreading shrub 1-5 feet tall, the foliage has disagreeable odor when crushed; leaves thick, dark green above, pale below, mostly divided into three leaflets; leaflets oval to wedge-shaped, 1/3-1 1/3 inches longer than lateral leaflets, few-toothed with coarse, rounded teeth; flowers yellow, small, close together in stiff clusters at ends of stems before leaves appear; fruits bright, orange-red, about 1/3 inch in diameter, somewhat flattened, sticky-hairy.



Shadscale

(Atriplex confertifolia)

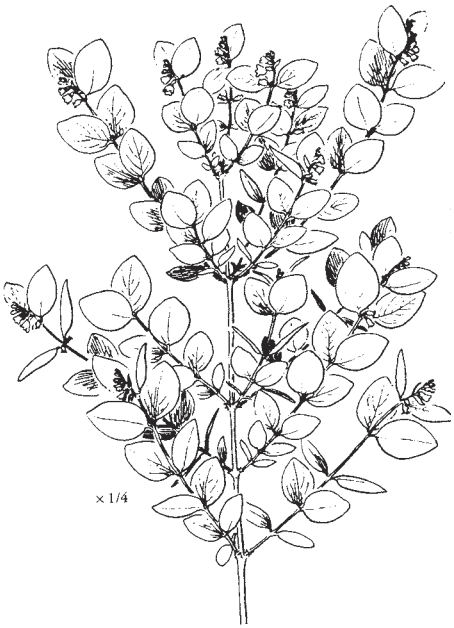
Sometimes called spiny saltbush, is compact, round-topped shrub 1-4 feet tall; many branches have spinose tips; leaves oval to nearly round, thick, rounded at tips 1/4-2/3 inch long; small flower clusters in leaf-axils; fruit has two broad, triangular wings 1/3-1 inch long at top.



Broom Snakeweed

(Gutierrezia sarothrae)

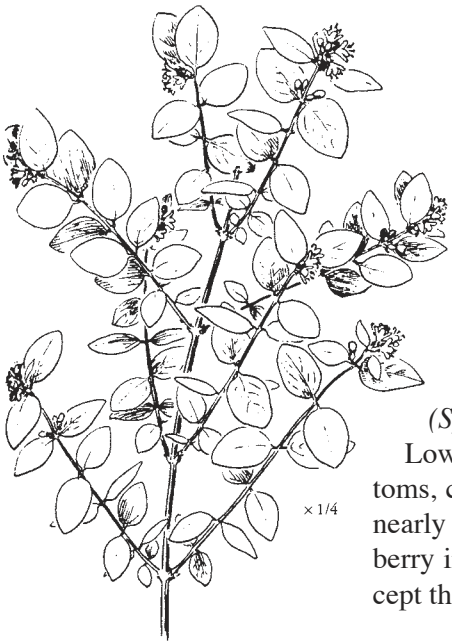
Low, bushy, 1-2 feet tall with many erect stems from woody base; leaves long and narrow, 1-2 inches long, sticky-resinous; flowers yellow, flower heads small, narrowly cylindrical, composed of three to seven petal-like ray flowers and three to seven tubular disk flowers, several heads in rather flat-topped clusters at ends of stems; seeds silky, tipped with small, papery scales.



Snowberry

(Symphoricarpos albus)

Spreading shrub 2-5 feet tall; leaves thick, oval or round, broadly lobed or wavy-magined, mostly smooth above, sometimes hairy below, 1/4-1 1/2 inches long; twigs smooth; flowers white or pinkish, the petals densely hairy within, in few to several rather crowded clusters at ends of branches and in leaf axils; berries white, round or oval, 1/3-1/2 inch in diameter.



Western Snowberry

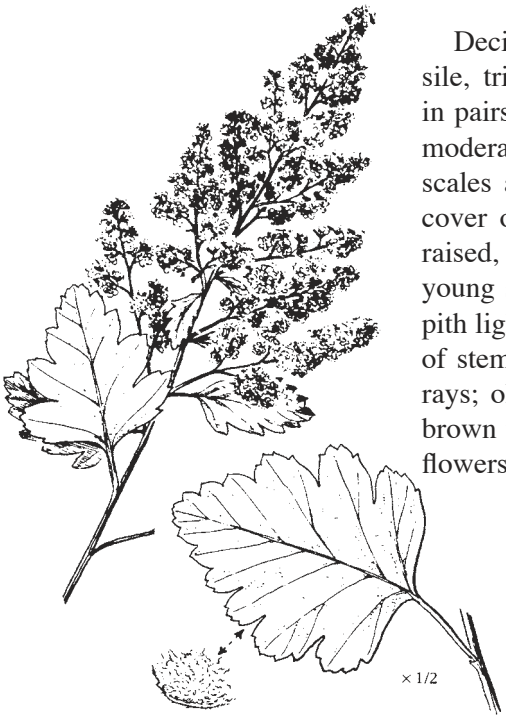
(Symphoricarpos occidentalis)

Low shrubs of plains and valley bottoms, common in eastern Montana. It is nearly identical to the common snowberry in most winter characteristics, except that it has finely hairy young twigs.

Ceanothus (Snowbrush)

(Ceanothus velutinus)

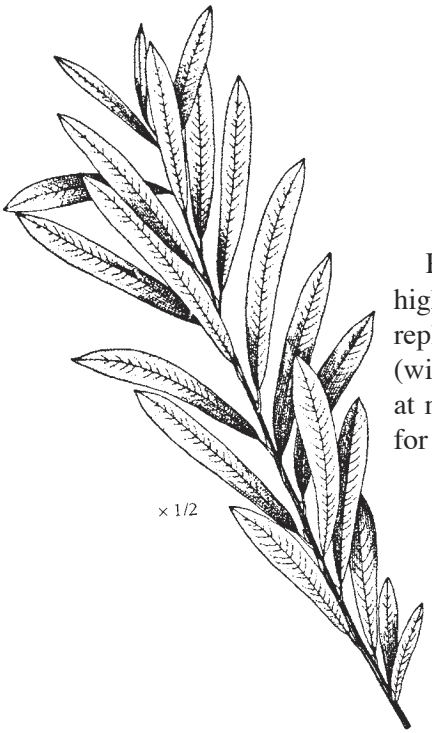
Low, rounded evergreen shrub 2-5 feet tall; several stems from base; leaves leathery, thick, oval, 1-2$^{1}/_{2}$ inches long with three main vein, shiny dark green on upper surface, paler underneath, fine glandular teeth on margins, in oblong clusters 1-4 inches long, fruit about $^{1}/_{16}$ inch across, sticky, two-lobed.



Mountain Spray

(Holodiscus discolor)

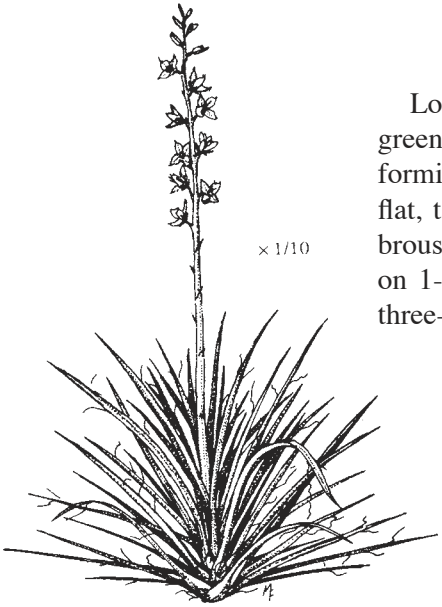
Deciduous shrub; buds alternate, sessile, triangular; two to four bud scales in pairs; outer scales dark red to brown, moderately gray, wine-colored inner scales appear grayish because of dense cover of white hairs; leaf scar distinct, raised, V-shaped, bundle traces, three; young stems light olive strongly ridged, pith light brown to white, more than half of stem diameter; wood with prominent rays; older stems shreddy, dark reddish brown to dark gray; fruit deciduous, old flowers persistent, small.



Purple-osier Willow

(Salix purpurea)

Rapid-growing shrub, does well on high water table sites and is used as a replacement for caragana in the outside (windward) row of windbreaks; 8 feet tall at maturity and provides excellent cover for wildlife.



Yucca or Soapweed

(Yucca glauca)

Low-to meduim-armed shrub, evergreen; leaves rise from woody crown forming a clump, long-narrow and thick, flat, tapered to a sharp point, margin fibrous, long-persistent; flowers borne on 1-3 foot central woody stalk; fruit a three-chambered capsule, persistent.

Glossary of Terms

Blister-With reference to evergreen plants in Montana and especially the true firs, this term describes the small resin-constraining bumps on the bark.

Bracts-Modified leaves usually found at the base of flowers. Three-pronged structures seen protruding from between Douglas-fir cone scales are considered to be bracts.

Branch-Refers generally to plant growth older than two years, i.e., does not include current season's growth or that of the previous year. A lateral growth from a main stem or root.

Branchlets-Small twigs that contain current season's growth plus the growth of the past year.

Bud scale-A modified leaf forming part of the protective covering of a leaf bud or flower bud.

Bundlescar-Marks indicating the broken ends of water- and food-conducting tubes (veins), variously arranged in a leaf scar.

Catkin-A spike-like, often hanging, cluster of inconspicuous and usually unisexual flowers, as in willows, birches and alders.

Clusters-A term referring to the number of needles rising from a common point on pine or larch twig. On pines, these may be bound together at the base with a persistent white or tan sheath.

Compound-A term referring to a leaf type that consists of more than one flat surface. These leaflets are attached to a main or central axis that, in turn, attaches them to the twig.

Cones-The cylindrical or conical-shaped, seed-bearing body of evergreen plants. It consists of a central axis surrounded on all sides by overlapping scales, each of which supports one to two seeds released as the cone dries and scales spread.

Cylindrical Cone-Means a cone with an overall shape that ranges from roughly parallel sides to "barrel-shaped."

Deciduous-Fallling of at the end of a growing season; not permanent or evergreen.

Eastern-With reference to Montana, this term describes, roughly, the area lying east of a line running from Glacier National Park to West Yellowstone, Montana.

Fruit-The plant part that encloses or supports seed. Seed may be enclosed in a fleshy covering, as with chokecherry, or without covering, as with conifers, or in a dry-winged covering, as with green ash.

Leaflets-The individual, flattened leaf surface leaf surfaces that make up a compound leaf.

Lenticel-Wart-like, usually light-colored spots on the bark of twigs.

Lobes-A term describing the projected parts of a simple leaf. Maples have simple (single, expanded leaf surface) leaves with three to five usually sharp lobes.

Nut-A type of fruit made up of a hard, bony, rather than fleshy, covering, which contains on or more seeds. These seeds are the edible portion of the nut.

Petiole-The leafstalk; the portion of the leaf (particularly broadleaved plants that attaches that flat part of the leaf (the blade) to the twig.

Pyramidal-Refers to a plant shape much taller than broad, and broader at the base than the top. Becomes narrower from the base upward.

Style-The stalk-like portion of the seed-producing floral structure connecting the bulbous base to the pollen-accepting tip.

Western-With reference to Montana, this term means the area lying to the west of the line described under "Eastern." West of the Continental Divide.

Whorls-A term referring to the arrangement of leaves or shoots arise around the circumference of a branch or twig at the same level.

Trees and Shrubs for Shelterbelts, Windbreaks, Woodlots, Erosion Control and Christmas Trees

Those listed as "introduced" are not native to Montana.

Shrubs

Common Name	Scientific Name
Buffaloberry	*Shepherdia argentea*
Siberian Caragana (Introduced)	*Caragana arborescens*
Tatarian Honeysuckle (Introduced)	*Lonicera tatarica*
Common Lilac (Introduced)	*Syringa vulgaris*
Sandcherry (Introduced)	*Prunus besseyi*
Red Dogwood	*Cornus stolonifera*
Purple-osier Willow (Introduced)	*Salix purpurea*
Chokecherry	*Prunus virginiana*

Broadleaved Trees

American Plum	*Prunus americana*
Russian Olive (Introduced)	*Elaeagnus angustifolia*
Green Ash	*Fraxinus pennsylvanica*
American Elm	*Ulmus americana*
Siberian Elm (Introduced)	*Ulmus pumila*
Golden Willow	*Salix alba var. vitellina*
White Willow	*Salix alba*
Cottonwood	*Populus spp.*
Siberian Crabapple (Introduced)	*Malus baccata*

Evergreen Trees

Rocky Mountain Juniper	*Juniperus scopulorum*
Ponderosa Pine-Eastern* (Bull Pine)	*Pinus ponderosa var. scopulorum*
Ponderosa Pine-Western*	*Pinus ponderosa*
Colorado Spruce	*Picea pungens*
Douglas Fir-Eastern*	*Pseudotsuga menziesii var. glauca*
Douglas Fir-Western*	*Pseudotsuga menziesii*
Scots (Scotch) Pine (Introduced)	*Pinus sylvestris*

* The Continental Divide in Montana is the dividing line between "Eastern" and "Western." See also, the terms "Eastern" and "Western" in the Glossary (pp 70-71).

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