

# **Lewis and Clark School Plant Guide**

## ***Rediscovering The Outdoor Discovery Core***

Authored by the 2005-2006 Lewis and Clark ECOS team:

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### **Acknowledgements:**

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### **Dedication:**

To all the children, who, through their challenging questions, taught us to be better teachers.

## Arrowleaf Balsamroot, *Balsamorhiza sagittata*

**Family:** Sunflower, *Asteraceae*

**General:** A member of the Asteraceae family. Plant grows in a large (up to 50 cm (20 in) tall), showy bunch, stemming from a very substantial, woody, branched taproot. Large, heart-shaped leaves form the base of the plant, with few to many sunflower-like flowerheads



**Life Cycle:** Perennial

**Phenology:** Plant usually flowers from May to June at low elevations

**Habitat:** Often found on dry, rocky slopes, grasslands, in the foothills and montane zones.

**Uses:** The large leaves may be used as a wrap for minor skin irritations such as cuts, blisters, and burns, or roots were boiled and made into a poultice which was applied to the same irritation. The sap may be used topically as a mild antiseptic, due to its anti-bacterial and anti-fungal properties. Other

ailments that were treated with teas from the plant's roots were tuberculosis, rheumatism, headaches, whooping cough, and used simply as a diuretic. All parts of this plant are edible. Leaves and stems may be peeled and eaten raw or cooked. Roots may be chewed raw, but may be disagreeable to the digestive tract because of their consistency and due to complex sugars stored within. Dried seeds may be eaten alone, or roasted and ground into flour. The Nez Perce added grease to the flour, making a mixture that was formed into balls and fried. Cheyenne Indians alleviated stomach pains by boiling plant parts to make a tea or to inhale vapors from.

**Did You Know:** Origin of Name: "Rhiz" is latin, meaning "root". Lewis and Clark: The Corps of Discovery collected arrowleaf balsamroot on the Columbia River in April 1806. It now resides in the Lewis and Clark herbarium at the Academy of Natural Sciences in Philadelphia with the following quote: "The stem is eaten by the natives, without any preparation."



**Bee balm, *Monarda fistulosa***

Also known as: Wild Bergamot and Horse Mint

**Family:** Mint, *Lamiaceae*

**General:** fine haired herb with a strong minty fragrance. The erect stems are 20-70 cm tall and unbranched, and bear large red or purple flowers. Often found growing in patches from rhizomes.



**Flower:** rose or purple in color, tubular and 20-35 mm long. Flowers occur in clusters and have a narrow upper lip and a 3-lobed lower lip.

**Life Cycle:** herbaceous perennial

**Phenology:** flowers June to August.

**Habitat:** open, dry, rocky areas, prairies and roadsides. Can be found in either the plains or the mountains.



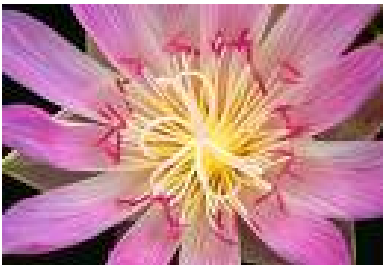
## Bitterroot, *Lewisia rediviva*

Also known as: Rockrose and Redhead Louisa

**Family:** Purslane, *Portulacaceae*

**General:** When flowering it appears to be without leaves. It is a low plant with 1 to 3 in. (2.5-7.5 cm) tall stems and white to pink-colored flowers. Prior to flowering the leaves are succulent and arise from a fleshy root crown.

**Flower:** There are 6 to 8 conspicuous sepals, which surround 12 to 18 narrow egg-shaped petals and 30 to 50 stamens. They have long cone-shaped buds.



**Fruit:** Dry capsules with many seeds

**Life Cycle:** Perennial

**Phenology:** Flowers May to early July at low elevations, leaves emerge in September, senesce in early summer

**Habitat:** Occurs in sagebrush and ponderosa pine habitats, in rocky, dry soil in valleys, hillsides and mountain ridges (up to 8,000 ft. (2,438 m.))

**Distribution:** From British Columbia south to Arizona and southern California, and east to Colorado. It is especially

abundant in Montana. Found in Grand Teton and Yellowstone National Parks. Can be found in dry grasslands around Missoula, especially in rocky microsites.



**Uses:** One of the most important food staples for native tribes in our area, but often considered too bitter for Europeans. The starchy roots are collected just before flowers appear. Peeled, cored and washed roots were baked, steamed or boiled until soft. Often used with camas roots in stews. 50 lbs was considered enough to sustain a person through the winter. Bitterroot tea was good for heart disease and pleurisy.

**Did You Know:** Due to its unique beauty, local abundance, and historical importance the Bitterroot flower is Montana's state flower. It was noticed by Captain Meriwether Lewis during the Lewis and Clark expedition at Traveler's Rest in the Missoula County (Lolo creek) and brought to British botanist Fredrick Pursh. Lewis tried to boil and eat the roots, which his Native American companions recommended. Unfortunately, he found them to be too bitter and therefore gave the rest to the Native Americans. Pursh stored the dried plant in a herbarium for several years. He then started to work on it and found the root appeared to be still alive. After planting it in soil it started growing leaves! He then gave it the name *rediviva*, which means brought to life.

## Bluebunch Wheatgrass, *Pseudoroegneria spicata*

Also known as: Big Bunchgrass

**Family:** Grass, *Poaceae*

**General:** Large bunch-forming grass that produces an erect, spike-like inflorescence on stems that reach heights of 0.2-1 meter (2-3 ft) tall

**Leaf:** Flat or slightly rolled leaves are 1-5 mm wide and 5-25 cm long and light green to blue-green which branch off of main stem. Edges are white and entire blade has a light waxy coating

**Phenology:** Growth begins in March-April, and flowers begin to emerge in July and persist until August. It generally regrows basal leaves in September when fall rains come.

**Habitat:** Dry grasslands and plains, south-facing slopes and open woods. Found in low elevation valleys to subalpine zones.

**Distribution:** From interior Alaska south to California and east to the edge of the Great Plains, generally to the east of the Cascade-Sierra crest

**Uses:** This grass produces a great deal of palatable, leafy green material, making it an excellent forage plant. Additionally, it stays green into the early summer, has a second greening in the fall when the rains come, and cures on the stem so that it is fit to be eaten in the winter. It is the preferential winter and early spring forage for elk, along with Idaho fescue, which often is found in close proximity to

bluebunch wheatgrass. It is susceptible to damage from overgrazing especially during the dry summer period, and has been replaced by invasive species in many locations. Because it reproduces primarily from seed, continued grazing early in its life cycle could prove detrimental to the plant.

**Did You Know:** Bluebunch wheatgrass is the state grass of Montana. This is the most important plant in dry Montana grasslands, making up 60 percent of the entire groundcover in some cases. Compared to Idaho fescue and rough fescue, bluebunch wheatgrass is an indicator of dry, rocky grassland sites. The presence of this species in a grassland is considered an indicator of good ecosystem health. The root system of this plant is extensive, making it a good species on steep slopes to control erosion. Bluebunch wheatgrass is only moderately resistant to fire. After fire, stands will regenerate to pre-burn density from seedbed in 3-7 years. Like many of our common native grasses, bluebunch wheatgrass has been subject to many taxonomic studies resulting in a wide variety of scientific names, creating much confusion. It often is very difficult to identify, due to the fact that it hybridizes with many other species.



Blue Bunchgrass (Idaho Fescue), *Festuca idahoensis*

**Family:** Grass, *Poaceae*

**General:** Erect bunchgrass that grows to a height of 0.2-1 m (1-3 ft) tall, with a bluish cast. Roots are dark in color



**Leaf:** Tightly rolled blades, bluish in color, which are mostly basal, are 5-12 cm (2-5 in) long and less than 1.5 mm wide. Blades are rough to the touch.

**Phenology:** Green growth begins in April- May, and seeds mature by midsummer. Also produces new leaves in September.

**Habitat:** Occurs on a wide variety of soil types, but prefers well-drained sandy or gravelly loams. May be found at

elevations from 300 m to 4000 m. Open woods, dry, rocky slopes of mountains and foothills, ponderosa pine woodlands.

**Distribution:** Throughout the Rocky Mountains and interior west, from the Cascade-Sierra crest to the eastern side of the Rockies from New Mexico to Alberta, east to South Dakota.

**Did You Know:** Idaho fescue is a key indicator of good ecosystem health in Montana native grasslands. It is an excellent forage grass for both livestock and wildlife, but is not generally cultivated, because of its poor seed. It is only fair forage for deer, but a choice forage for elk, who tend to graze on native bunchgrasses in the winter, green grasses in the spring, forbs in the summer, and grasses again in the fall. Idaho fescue's deep root system makes it an excellent species on steep slopes for soil stabilization. It is moderately drought and shade tolerant, but it is not very tolerant of fire, having a regeneration cycle of 5-10 years post-burn. A wax that prevents water loss creates the bluish cast on the leaves. It may be absent, in which case the blades maintain a green color. Idaho fescue can occur on more mesic sites than rough fescue or bluebunch wheatgrass.



**Blanketflower, *Gaillardia aristata***

Also known as: Brown-eyed Susan

**Family:** Sunflower, *Asteraceae*

**General:** One to many, 8 to 30 in. (20-20 cm) tall, stems with large yellow flowers at the tips.

**Flower:** 6-16 Yellow rayflowers that are 3-lobed surround orangish-purple dome-shaped hairy disc-flowers. Certainly the most colorful sunflower species in our region. Receptacles are covered with stiff hairs. Usually solitary.



**Life Cycle:** Perennial

**Phenology:** June to early August, up to September in mountains.

**Habitat:** From foothills to about 8,000 ft (2,438 m) in open areas from dry low elevation grasslands, to moist alpine areas.

**Distribution:** Occurs from Saskatchewan to British Columbia south to New Mexico and east to all of the northern states across the U.S. except Vermont and Maine. Found in Yellowstone, Glacier and Grand Teton national Parks. This species is the only one out of the 14 members of its family.

**Uses:** Tea taken from this species was used to treat digestive upset and to relieve sore eyes and hair loss. Powder from dried plants was used as snuff to treat nasal congestion.

**Did You Know:** This is one of the most showy of the native wildflowers in grasslands of the Northern Rockies. This species is now grown in flower gardens all over the world. The word *aristata* means bearded.



## Choke Cherry, *Prunus virginiana*

**Family:** Rose, *Rosaceae*

**General:** Erect, deciduous, small tree or shrub 3-20ft (1-5m) tall. Stems are numerous and slender, branches are upright and spreading and often twisted.

**Leaf:** Alternate. Thin, egg-shaped to oval often widest above the middle 0.7-3.2inch (2-10cm) long, sharply serrated, rounded to sharply pointed at tip with a blunt rounded base. They are bright green in color, hairless on top with 2-3 reddish glands near the base of the leaf blade.

**Flower:** Many white, 5 petaled flowers, 10-12mm across, erect in showy bottle brush like clusters.

**Fruit:** Shiny red to purplish-black cherries that hang in small clusters.



**Uses:** The Fruits of this plant are edible but are astringent and often cause the mouth to pucker or choke, which is where they

got their name. This is why they are not normally eaten plain, but are great in jams, jellies, syrup, sauces and wine. It is also a very popular part of Western herbal medicine. Wild cherry cough syrup is probably the most popular use but the roots, bark and berry are also used to make tincture for respiratory and digestive problems. Bark soaked water is also used to treat pink eye and eye infections. The choke cherry was important to many Indian tribes. They native people would collect them in large quantities after the first frost, which makes them sweeter. They were then dried and eaten, stored in large patties for winter or cooked in dishes such as stew.



## Common Ninebark, *Physocarpus malvaceus*

**Family:** Rose, *Rosaceae*

**General:** Spreading to erect, deciduous shrub with one or multiple trunks and angled, arching branches and star shaped hairs. It stands 1.5- 6ft (50-200cm) tall.

**Leaf:** Alternate. Similar in shape to a maple leaf with 3-5 lobes and 3 strong main veins. The incisions between the lobes are less than half the length of the leaf which are 2/3 to 2 1/2 inch (2-6cm) long and nearly as broad. They are doubly toothed, rounded at the point, shiny, dark green on top and paler on the underside. Turn orange to red in the fall.

**Flower:** White, 5 petals with stamens that are equal to or longer than the petals. 2 pistils, ovaries fused at least halfway, with star-shaped hairs. Found in hemispheric or round clusters at the tips of branches.



**Phenology:** Blooms late May to June

**Habitat:** Canyons, rocky hillsides, dry, open to lightly wooded areas. Common in Douglas-fir forests.

**Distribution:** Colorado north to southern B.C and Alberta and west to the Cascade and Sierra Nevada Mountains.



**Did You Know:** Ninebark is used as an ornamental shrub in many northern gardens. It is also one of the first plants to regenerate after a fire and tends to do well in recently burned areas. The name ninebark comes from the belief that the shrub actually contained nine layers of shredding bark. *Physocarpus* refers to the inflated papery follicles of the fruits.

## Common Snowberry, *Symphoricarpos albus*

**Family:** Honeysuckle, *Caprifoliaceae*

**General:** Deciduous, erect, shrub 3-9ft (1-3m) tall and often form thickets. The dense, branches are opposite, hairless and slender.

**Flower:** Small (less than one cm), pink to white, bell to funnel shaped flowers that are hairy on the inside. The stamens and styles do not extend past the petals. They occur in small clusters near the ends of branches.

**Fruit:** White, waxy berry-like drupes (fleshy, pulpy 1 seed fruit) oval to round and < 1 inch in diameter. They stay on the branches through winter in clusters of 3 to 5.



**Distribution:** It is found all the way across the United States, north into Canada and south into California and New Mexico, although it is not located in the southeastern US. In Missoula it is very common both in Patty Cannon and in the Rattlesnake recreational areas

**Habitat:** Forests, thickets, valley slopes, grasslands and plains. Enjoys dry or well drained areas.



**Did You Know:** The Snowberry is inedible and considered toxic if ingested in large quantities because of toxins called saponins, which are poorly absorbed by the body but are eliminated by cooking; this made them a possible food source for many Native American populations. Saponins are more toxic to some animals than others and some native American tribes used to put them in streams to stupefy or kill the fish. The same characteristics that make them toxic, made them very valuable medicinally. When applied to the skin the berries have a gentle cleansing and healing effect and were used as a topical antibacterial, to kill body parasites and to aid in healing. The whole plant, even the bark and roots, are a disinfectant, diuretic, laxative and can sometimes cause vomiting. Because of these qualities poultices and teas of the plant were used to treat almost every internal or external ailment.

## Forget-Me-Not, *Myosotis micrantha*

**Family:** Borage, *Boraginaceae*

**General:** Herbaceous, mostly branching from the base, grows up to 8" (20 cm) tall but often is 2" or less. Tiny, bright blue flowers borne in narrow, spirally coiled branches or in the axils of upper leaves.

**Leaf:** Lance-shaped and less than 1" (2 cm) long.

**Flower:** Tiny, bright blue. 5 petals united into a narrow tube, abruptly flared at top. In fruit the flower stalks are shorter than the calyx.

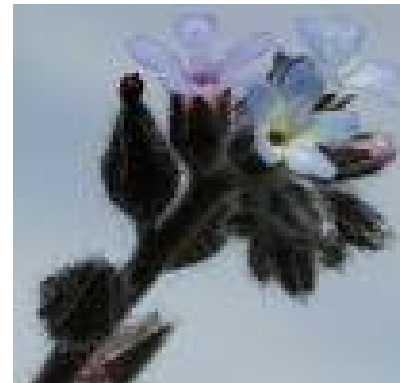
**Phenology:** Flowering: April-May in the foothills

**Habitat:** Dry, open, often disturbed habitats in the valley zone, common in most valley grasslands.

**Distribution:** Native to Eurasia, introduced and now established throughout much of the United States and adjacent Canada.

**Did You Know:** Forget-me-nots are named for their spectacular flowers. Alaska and other States have declared alpine forget-me-not their state flower. But the humble exotic, the common forget-me-not is often confused with the more hard to grow alpine species. Small forget-me-not, while an exotic, is not noxious and poses little threat to disturbed grasslands. Unless you get down on your knees its flowers appear as tiny blue dots intermixed with a layer of small leaves on the ground. With a flower only a few millimeters across I wonder who is the pollinator? It is also a good example of the effects of local climate and soils on plant size. When growing

in the Midwest or in its native Baltic Sea region it can often reach several feet (1m) in height, while in the dry slopes of Mt. Sentinel it may only be an inch or two high. On better sites, such as the O'Toole prairie it can reach a foot or more.



## Gray Sage, *Artemesia ludoviciana*

Also known as: Prairie Sage, Western Mugwort

**Family:** Sunflower, *Asteraceae*

**General:** Sage-like herb. Gray-white, woolly, ascending to erect, single stemmed to loosely clumped colonies, can seem formless. It grows from creeping rhizomes, stands 1-2ft (30-100cm) tall and is strongly aromatic.

**Leaf:** Alternate. Lance-shaped to linear, 1-4in (3-11cm) long and toothless. The lower leaves are often more lobed and occasionally toothed. All leaves are covered with dense, small white hairs below (especially when young) and usually above.



**Flower:** Yellowish when in bloom, brownish afterwards, about (3-5mm) wide. Small flowers, in small, numerous, narrow, branched clustered off the stem toward the top. They are held in small woolly bracts.

**Phenology:** Puts out new leaves in April-May, blooms in July-August

**Habitat:** Dry open places, plains to mountains, grasslands, alpine, roadsides, rocky slopes and in many western gardens. Prefers dry and even rocky soil and in some places is considered a weed.

**Distribution:** Widely distributed across all of the US and most of Canada. Occurs from BC to Ontario in Canada, and most of the contiguous US except for Florida



**Did You Know:** Western mugwort has many medicinal uses. It has been proven to excite stomach secretions and helps treat many stomach conditions. The teas were used to treat fevers and colds, including Rocky Mountain Spotted fever. In Mexico, the Hucholes drink juice made from the leaves to treat abdominal pain. Amerindians used it for colds, sore throats, intestinal worms and made a pulp of its leaves to treat burns and rashes.

## Hawthorn, *Crataegus douglasii*

Also known as: Black Hawthorn

**Family:** Rose, *Rosaceae*

**General:** A deciduous, small tree or large shrub that ranges from 3ft to 15ft (1-5m) and has stiff, straight thorns that extend off the branches 1/3 to 1 in (1-3cm). It may have multiple trunks ascending out of the ground or just one with very low branching.

**Leaf:** Alternate, oval shaped like a table spoon and about 1-2.5in (3-6cm) long and almost as wide. They have sharp teeth along the edges, but do not usually come to a point at the tip. The top of their true green leaves shines like patent leather shoes and the underside is dull and hairless.

**Flower:** Showy, whitish to pink, 5-petaled flowers, sometimes with pink stamen coming out of the center. They are small, 1/3 to 2/3 in. (1-1.5 cm) in diameter and smell good.

**Fruit:** The hawthorn produces apple-shaped, berry-like, blackish-purple fruits. They are 1/3 to 1 in (1-3cm) wide and are edible, but generally pulpy and tasteless. The fruit withers before winter and each one contains a small nutlet or seed.

**Phenology:** They bloom May to June and fruit in the fall



**Habitat:** Forests and open areas with adequate moisture, near (but not in) water sources, and at a range of elevations. It likes soft soil, but does not usually inhabit recently disturbed areas.

**Distribution:** It is native in the US from the northwest (including Alaska) continues east to the Great Lakes. It extends south to northern Utah, Nevada and California. It is also found in gardens all over the American continent and in Europe.

**Did You Know:** Nearly 1,000 species of hawthorn have been described. Native Americans used the stiff, woody thorns were used for piercing ears, lancing boils, closing minor cuts, making fish hooks and needles. The hard wood of the branches was used to make tools and weapons. They also chewed the leaves to prepare a poultice that was then applied to various body parts to reduce swelling. The bark, roots and wood were also used to cure stomach problems. Eye scratches from thorns can cause blindness.

## Hounds Tongue (Tickweed), *Cynoglossum officinale*

Also known as: Beggars Lice and Dogbur

**Family:** Borage, *Boraginaceae*

**General:** 1-3 ft. (2.5-7.5 cm) tall, stout and branching with burgundy colored flowers that are arranged in an elongated spiral cluster.

**Leaf:** Alternate, numerous, broad lance-shaped and 4-28 in. (10-12 cm) long, getting smaller as it grows higher up on the stalk. The first year leaves form a basal rosette and are covered in soft white hairs that give it a velvety feel and have white veins.

**Flower:** Burgundy colored and about 0.25 in. (0.6 cm) long. Arranged in an elongated cluster with the stalk of each flower attaching to a single stalk and the youngest flower growing on the apical tip of the main stalk.



**Habitat:** Hillsides, roadsides in dry areas, sandy areas, waste places, and pastures. Often associated with livestock grazing (even though it is poisonous to cattle!).



**Distribution:** Located in B.C. to Alberta, and in the all of the U.S. except Alaska and Hawaii and some parts of the south-central and southeastern US. Out of 75 species of *Cynoglossum* only 1 occurs in the Rocky Mountains.

**Did You Know:** This plant is not only poisonous but also has an unpleasant odor and taste keeping all herbivorous animals at bay. Houndstongue is considered a noxious weed (must be controlled) in 42 states including the entire Rocky Mountain region. Since it is a biennial, it is easy to control by hand pulling the basal rosettes (before it flowers). It contains chemicals such as consolidin and cynoglossine, which can be used to relieve pain or as CNS depressant. The leaf poultice was once used for insect bites and piles. The root and leaf tea was used to relieve colds, coughs, and irritated mucous membranes; as an astringent in diarrhea as well as dysentery. It is commonly called hound's tongue because the leaves resemble a dog's tongue.

Junegrass (Prairie Junegrass), *Koeleria macrantha*

Also known as: Prairie Junegrass, Koelersgrass

**Family:** Grass, *Poaceae*

**General:** Light green, short, but dense, bunchgrass, reaching heights of 20-50 cm (8-20 in) tall. Shallow roots that spread 15-20cm.

**Leaf:** Mostly basal, rolled or folded, with conspicuous veins, 1-3 mm wide. Hairy along the edges, or margins, and sometimes having long hairs in the axils. Tips are shaped like the prow of a boat. Leaves ridged and roughened on top surface.

**Phenology:** Green growth begins in March-April, flowering ensues in June, with fruit maturing in June-July. May undergo another growth cycle in the fall if rains are sufficient



**Habitat:** Prefers gravelly or rocky, well-drained soils. Prairies, grasslands, and open woods in valleys and foothills. Ponderosa pine woodlands. May be found in the subalpine and alpine zone. Prominent in heavily grazed areas.

**Distribution:** Widespread in North America, in all states except for the southeast. One of the most widely distributed native grass species in the country.



**Uses:** Although it is a good forage grass it is generally too dispersed to be an important forage in our grasslands. It is a good species for native grassland restoration.

**Did You Know:** In areas of heavy grazing, this grass may out-compete larger bunchgrasses, although it may decrease its longevity. It takes three years to start producing seeds, and generally is a late successional species. A popular grass for water-wise gardens. It is an important forage grass for wildlife.

Kinnikinnick (bearberry), *Arctostaphylos uva-ursi*

**Family:** Heath, *Ericaceae*

**General:** A trailing shrub that is 2-12 inches high and 1-3ft long and often forms a mat along the ground. It is an evergreen with dark green leaves and red-gray bark.

**Leaf:** Alternate. The leaves are shaped like a spoon being round at the top and growing narrow at the base. They are thick, smooth, hairless, glossy and dark green on top and paler on the bottom.

**Flower:** It has small pinkish to white flowers that are cup-shaped or like little vases. They form small clusters at the tips of the branches and all along the stem. They are about a half centimeter long.



**Fruit:** Fruits are black to bright red when mature, fleshy globe-like berries that hang in small bunches.

**Habitat:** Open areas and forests at higher elevations, lightly wooded areas, in foothills. They generally prefer well-drained acidic soils. They are particularly common in lodgepole pine forests.

**Distribution:** Widespread across northern portion of the Northern Hemisphere including Scandinavia and Russia. In North America from the maritime provinces in Canada and New England across to the Pacific Coast.

**Uses:** Although, native people used to cook them with fish eggs and grease, the berries are generally tasteless, mushy and often cause constipation. In some places the berries are still used to make tea, but drinking the tea over a prolonged number of years has been shown to cause liver and uterine problems; it's not your number one food choice if you are stranded in the woods. Today, the bearberry shrub is used medicinally both external and internally in some forms of natural medicine. A tea or tincture is made to relieve bladder pain. The active medicinal compound is hydroquinone glycoside arbutin. It also can reduce accumulation of uric acid and relieve pain of bladder stones and cystitis. Externally it is used to wash cuts and scrapes as an antibiotic.

**Did You Know:** Because the berries are present in the winter they provide good food for both bears and deer. The deer also eat the bush itself. Kinnikinnick is a popular plant for landscaping since it provides a nice low ground cover and requires little water. It is often difficult to grow from seed, but can germinate after a cold stratification and soaking. It is easier to propagate with cuttings.

## Meadow Death Camas, *Zigadenus venenosus*

**Family:** Lily, *Liliaceae*

**General:** One single erect leaf-less stem, 4-14 inches in height, from oval bulbs with blackish scales.

**Leaf:** Basal, linear, grass-like leaves that are somewhat v-shaped at the base and extend to a point. They are usually a couple inches shorter than the stem and occasionally can be attached to the stem on its lower portions. They can blend in with surrounding grass.

**Flower:** Many pale yellow, cream to white, small flowers grow clustered at the end of the stem, more densely towards the tip creating a spike of flowers. Each flower consists of 6 unequal, separate tepals forming a circle or an oval.

**Phenology:** Bloom in May



**Habitat:** Coastal or arid prairies, grasslands, sage brush fields, open pine forests, hills and valleys. In Missoula it is found on Mt. Sentinel, Mt. Jumbo and Blue Mountain



**Distribution:** Southern British Columbia to North Dakota to Mexico. It is considered an invasive weed.

**Did You Know:** This plant is extremely poisonous! The whole plant is toxic and if ingested will cause headache, nausea, vomiting, heart irregularities, loss of muscle control and death. Because it looks similar to edible camas and its bulbs have been mistaken as onions there have been reported deaths. In spite of this, parts of the flower have been used in various fragrances, perfumes.

## Mock Orange, *Philadelphus lewisii*

**Family:** Hydrangia, *Hydrangeaceae*

**General:** A deciduous, loosely branched shrub which stands 1-3 m erect. Its branches are opposite and bear small white flowers with yellow centers.

**Leaf:** the leaves grow opposite, and may be lance or egg-shaped. They may be 2.5 to 7 cm long, are rough to the touch and have short, curved hairs usually along the veins. Each leaf bears three main veins from the base. The edges of the leaves may be smooth or slightly toothed.

**Flower:** the flowers are white and have four broad, round or notched, petals which form the shape of a cross. The centers contain 25-40 yellow stamens. The flowers grow in clusters of 3-11 at the tips of the branches. The flowers have a fragrance similar to oranges.



**Habitat:** well-drained areas, particularly along streams and in rocky slopes and open banks. Often found in open ponderosa

pine or Douglas-fir woodlands and grasslands. Can be found in both foothills and mountains, low or middle elevations.

**Distribution:** From BC in Canada south to California, and east to Montana and Idaho.

**Uses:** Its leaves are edible and can be mashed for use in soups. Many parts of the shrub have valuable uses. The wood has been used to make combs, knitting needles, and parts of baskets and cribs. The charcoal that results from burning the wood can be mixed with pitch or bear grease and used as a salve for sores and swellings. Powdered leaves have similar medicinal value. Poultices made from fresh leaves have been used by women to treat breast infections. The branches can be boiled, and the resulting tea can be used to wash and treat eczema and hemorrhoids, or it can be drunk to treat a sore chest. The straight stems of the plant were used by Indians to make bows and arrows, and the wood was also used to make items such as snowshoes, pipe-stems, and harpoon shafts.

**Did You Know:** The genus name comes from the Egyptian king Ptolemy Philadelphus (300 BC), and the species name honors Meriwether Lewis, who first discovered and collected the shrub along the Bitterroot River.

## Rocky Mountain Juniper, *Juniperus scopulorum*

**Family:** Cypress, *Cupressaceae*

**General:** Coniferous, evergreen, single stemmed, shrub or small tree. It is usually erect, 3-30ft (1-10m) tall with spreading to ascending branches that form a somewhat round aromatic foliage. The trunks can be twisted and knotted.

**Leaf:** Opposite. Light to dark green often with a blueish hue, in 4 vertical rows, they lay flat against the branches. They are scale like, slightly overlapping in places. The longer younger leaves tend to be more needle-like.

**Flower:** Small and yellow. Male and female flowers exist on separate trees.



**Life Cycle:**

Very long lived. A Juniper in Utah is thought to be over 3000 years old.

**Habitat:** Dry rocky open spaces, grasslands, mountains and foothills. It is intolerant of humid climates.

**Distribution:** Great Plains States to West coast (except California), British Columbia to Northern Mexico. It does not exist east of the Mississippi.



**Uses:** The Juniper represented youthfulness in some Native American cultures and their needles were burned to provide purifying, sacred smoke that was inhaled to cure and protect people from illness, thunder and lightening and witches. Its powers were also used to cure horses from illness, Juniper berries are used to give flavor to gin.

**Did You Know:** The seeds of this juniper cannot germinate until the wax cover of the seed is removed, which is most easily done when passing through the intestinal system of an animal. Waxwing birds are the primary dispensers and have been reported to pass as many as 900 seeds in 5 hours! In exchange, their seeds are a great food source for the waxwing and other small birds and mammals because they remain on the branches through out the winter.

## Rocky Mountain Maple, *Acer glabrum*

Also known as: Douglas Maple

**Family:** Maple, *Aceraceae*

**General:** Deciduous, small tree or shrub that has green leaves with grayish undersides. It is slender, usually with very low branches that grow off the tree in an opposite pattern. Often grows as a clump of stems.

**Leaf:** Opposite, broad palmate-shaped leaves, with serrated or toothed edges. The leaf contains 3-5 lobes that are 3-5 inches across. They are also smooth to the touch and have many visible veins. In humid climates leaves occasionally have brilliant scarlet edges from fungus.



**Flower:** Small yellowish clusters attached to the twigs. They contain 5 petals and sepals. Each shrub contains either male or female flowers, not both. They are about 8 cm across and can be quite fragrant.

**Fruit:** Are in a "V" shaped with two wings extending from the wrinkled seed like a boomerang (a shape that is technically known as a samara). They are about one inch long, greenish when young and tan when mature and hang from the thin branches or twigs. Many children refer to the fruits as "spinners" or helicopters because of the way they spin when they fall from the tree, which allows them to disperse long distances.



**Habitat:** They are found in sheltered areas, foot hills to the mountains and in well drained seepages.

**Uses:** The wood of a maple is unique in its pliability and strength. The Salish people used it to make ceremonial objects such as miniature paddles, rattles and costumes. The Okanagan people used it to make spears, pegs, drying racks, masks, snowshoes, drums, toys and even sweat houses. It was often the wood used to make a child's first bow. The Okanagan would also use it when hunting to distract or stop the bears by tying a small branch of a live tree across the bear tracks. Aside from the wood, its bark was used by the Niska people who wove it into mats and the Shuswap who wove it into rope. The Saanich people ground up the bark to make a poison antidote.

## Serviceberry, *Amelanchier alnifolia*

**Family:** Rose, *Rosaceae*

**General:** A clumped, dense, upright, deciduous shrub or small tree that range from 3ft to 15ft tall (1-5m). When mature they can grow to form thickets.

**Leaf:** Alternate. They are coarse toothed, blunt tipped, oval to round, nearly hairless, green leaves. Have distinctive parallel veins coming off at an acute angle from the midrib. In the fall the leaves turn a reddish brown.

**Flower:** The flower has 5 long white, slender petals that create a star-like shape around a yellowish green center. They are found in leafy clusters near the ends of the branches, giving a showy white color to grasslands and open areas in the spring.

**Fruit:** Service berries are bluish-purple fruits in the shape of a very small apple, 6-12mm across. Each fruit contains 2-5 seeds.



**Habitat:** Serviceberry is found along hillsides, rocky slopes, in banks along roads and water sources, plains, and open woods

at both low and montane elevations. It is often associated with water.



**Distribution:**

Serviceberry is found from south-central Alaska South to east-central California and east to the Rocky Mountains and northern Great Plains to Minnesota and Iowa.

**Did You Know:** The Human uses for this shrub are seemingly endless. It was essential to many Native peoples because not only are the sweet, juicy berries good fresh but they dry very well and save well through out the winter. They can be dried individually or in cakes. Lewis and Clark received one of these cakes as a gift that weighed over 7 kilos (more than 15lbs!). They were also cooked in soups or fried with meat and fat, (cold Bitter-root, salmon eggs and saskatoon berry soup was a delicacy). The berries were also used to sweeten "Indian ice-cream." The wood of the saskatoon bush was also used to make, weapons, tools and cooking utensils because it was straight and strong. Serviceberry is also considered a valuable browse species for deer and elk in winter habitat areas.

## Rabbitbrush, *Chrysothamnus nauseosus*

**Family:** Sunflower, *Compositae*

**General:** Bushy shrubs from 1 to 6 feet high, rabbitbrush brightens the drab plains, deserts, and foothills in late summer and fall. The base is woody and the twigs are flexible.

**Leaf:** The leaves are linear and alternate on the stems.

**Flower:** The bright yellow flowers have 5 to 20 blossoms per head. Only disc flowers are present. There are no ray flowers.

**Habitat:** Rabbitbrush generally grows in dry, open plains, slopes, and foothills, often with sagebrush on poor, overgrazed, or alkaline soil.



**Distribution:**

Rabbitbrush ranges from Canada to Mexico, east of the Cascade-Sierras, to the Great Plains.

**Did You Know:** *Nauseosus* means heavy-scented. Rabbitbrush is a useful tool for the conservationist. Since Rabbitbrush thrives on poor soil, it is an indicator that the land is poor, has been allowed to erode, has been overgrazed, or has been neglected. It can thrive where other plants cannot live. It is a reserve food for antelope, jackrabbits, mountain sheep, and mule deer, and elk. The plant contains rubber, but extraction is not commercially profitable.

## Birchleaf Spiraea, *Spiraea betulifolia*

**Family:** Rose, *Rosaceae*

**General:** The birchleaf spiraea is a low, deciduous shrub, 10 to 20 inches tall, spreading from rhizomes, strong underground roots.

**Leaf:** Alternate and oval leaves, one to two inches long and toothed on the ends and resemble the leaves of birch trees.

**Flower:** The birchleaf spiraea has a dense flat-topped cluster of tiny white to pale pink flowers with five tiny petals and 25-50 long stamens that appear fuzzy from many protruding stamens at the top of unbranched stems.



**Habitat:** Birchleaf spiraea are found in moist to dry, open or wooded sites; foothills to subalpine.

**Distribution:** Western Canada to Oregon and Wyoming and in Asia.

**Did You Know:** Blue grouse eat the young leaves, and deer browse on the shrubs. These plants can be grown from offshoots or seeds, but once established, they can be hard to control.



## Thimbleberry, *Rubus parviflorus*

**Family:** Rose, *Rosaceae*

**General:** Deciduous shrub, 2 to 6 feet tall, without prickles. Often form dense thickets from spreading rhizomes.

**Leaves:** Alternate, maple-leaf-like; palmate with 3 to 7 lobed leaves; usually fuzzy-hairy above and beneath; stalks long and glandular.

**Flower:** White, saucer-shaped, 1 to 2 inches across, with 5 broad, "crinkled" petals, in long-stemmed, flat-topped clusters of 3 to 7 at the branch tips.



**Fruit:** Juicy, edible red berries whose appearance closely resembles wild red raspberries.

**Distribution:** Extends from Canada to California to New Mexico.



**Habitat:** Open to wooded areas; moist to dry sites; from the foothills to the montane.

**Uses:** Thimbleberries can be tasteless, tart, or sweet, depending on the season and the habit. They are coarse and seedy, and the ripe fruits do not fall free from the bush, which makes them difficult to pick. Thimbleberries were so common that most tribes used them for food along the trail. Thimbleberries do not dry or keep well, so they were usually eaten fresh, rather than stored for the winter. Young shoots can be peeled and eaten raw or cooked. The flowers make a pretty addition to a salad. The fresh or dried leaves can be used to make tea. The leaf or root tea was said to relieve diarrhea (when served clear) and to calm upset stomach and vomiting (when mixed with milk). Some tribes ate the berries to treat chest disorders.

**Did You Know:** The wide leaves of the thimbleberry were widely used as plates, containers, basket liners, and toilet paper. Bears and small birds enjoy these berries, and deer love to browse the plants.

## Mountain Ash, *Sorbus scopulina*

**Family:** Rose, *Rosaceae*

**General:** Deciduous shrub, clumped, erect to spreading, 3 to 15 feet tall; branches slightly white-hairy and sticky when young, reddish-grey to yellowish when mature.

**Leaf:** Alternate, pinnate, and compound with 11-13 leaflets; leaflets are elliptical; sharp tips; glossy green and sharply toothed from tip to base.

**Flower:** White, saucer-shaped, about ½ inch across with 5 broad petals.



**Fruit:** Glossary, orange to scarlet, berry-like pomes in dense clusters. Gathered in fall and winter.

**Habitat:** Moist, open or shaded sites; foothills to subalpine. Look for in canyons, along streams, and moist seepage areas. Grows in dense thickets.

**Distribution:** Alberta to British Columbia and south to California and New Mexico.

**Uses:** These bitter fruits can be eaten raw, cooked, or dried, but many tribes considered them inedible. The green berries are too bitter, but the ripe berries, mellowed by repeated freezing are tasty and can be cooked and sweetened. It has been made to make jams, jellies, pies, ale, and a bittersweet wine. The berries can be dried and ground into flour. Native peoples boiled the peeled branches or inner bark to make teas for treating back pain, colds, headaches, sore chests, and internal bleeding. Branches were boiled and the steam inhaled to to relieve headaches and sore chests. The berries can be made into a juice rich with vitamin C. The berry tea can relieve sore throats and tonsillitis.

**Did You Know:** *Scopulina* means “of rocks”. The tender twigs are eaten by domestic stock and wild game. Moose browse it heavily in the winter. The fruits persist on the tree throughout the winter and are consumed by grouse, cedar waxwings, grosbeaks, and in the fall are consumed by bears.

## Lilac, *Syringa vulgaris*

**Family:** Olive, *Oleaceae*

**General:** Lilacs range in size from large shrubs to small trees, 2-10 m tall.

**Leaf:** The leaves are opposite (occasionally in whorls of three), deciduous, and in most species simple and heart-shaped, but pinnate in a few species (e.g. *S. laciniata*, *S. pinnatifolia*).

**Flower:** The flowers are produced in spring, each flower about 1 cm diameter, white, pale pink or more generally purple, with four petals. The flowers grow in large panicles, and in several species have a strong fragrance. Flowering starts after 80-110 growing degree days.



**Habitat:** Lilac bushes grow best in full sun. They prefer a rich, well-drained soil.



**Distribution:** The lilac is grown throughout the United States.

**Did You Know:** A pale purple colour is generally known as 'lilac' after the flower. Purple lilacs symbolize first love and white lilacs youthful innocence.

The wood of lilac is close-grained, diffuse-porous, extremely hard and one of the densest in Europe. The sapwood is typically cream-coloured and the heartwood has various shades of brown and purple. Lilac wood has traditionally been used for engraving, musical instruments, knife handles etc. When drying the wood has a tendency to be encurved as a twisted material, and to split into narrow sticks.

## Purple Coneflower, *Echinacea purpurea*

**Family:** Sunflower, *Asteraceae*

**General:** A member of the Asteraceae family. Plant grows in a large (up to 50 cm (20 in) tall), showy bunch, stemming from a very substantial, woody, branched taproot. Large, heart-shaped leaves form the base of the plant, with few to many sunflower-like flowers.

**Life Cycle:** Perennial

**Phenology:** June-October

**Flower:** Flowers are arranged individually on sturdy, elongated stems with soft lavender or purple petals surrounding an iridescent red-orange, coned center.

**Habitat:** Prefers full sun to partial shade in fertile, well-drained soils. Inhabits dry, open prairie and the plains regions of the central and eastern United States.

**Distribution:** A robust, drought tolerant perennial, native to the midwestern and southeastern United States.



**Uses:** Among the Plains Indians, the purple coneflower was versatile in its curative properties. Cheyenne, Crow, and Sioux chewed the root for relief from toothache. Cheyennes powdered the roots and leaves to make tea for sore mouth, gums and throat, rheumatism, arthritis, mumps, and measles, as well as a salve for the body. Crow Indians chewed the root for colds and drank the tea for colic. For burns, the Cheyenne and Sioux applied a decoction of the root for cooling relief. Sioux used this plant in the smoke treatment for distemper in horses and headaches in persons.

**Did You Know:** Sioux Indians and early white traders knew coneflower best as an antidote for rattlesnake and other venomous bites, stings, and poisonous conditions. Sioux “jugglers” bathed their hands and arms in the juice to protect themselves while handling hot meat with their bare hands.

## Shrubby Penstemon, *Penstemon fruticosus*

**Family:** Honeysuckle, *Caprifoliaceae*

**General:** Low, bushy shrub, or semi-shrub, 2 to 16 inches high; stems freely branched, often reddish and brittle, glandular-hairy near the top, forming dense clumps from a woody base.

**Phenology:** July to August

**Leaves:** Opposite and in basal clusters, linear to lance-shaped, 1 to 3 inches long, dark green and hairless above, saw-toothed to nearly toothless.

**Fruit:** Capsules, 8-12 mm long

**Flower:** Bluish-lavender to pale purple, 1 to 3 inches long, tubular, 2-lipped, long white-hairy on lower lip, in pairs in short clusters (racemes) at branch tips.



**Habitat:** Rocky or gravelly slopes in the mountains.

**Distribution:** Southern British Columbia and Alberta to Wyoming.



**Uses:** The leaves and flowers of the penstemon were added to cooking pots to flavor wild onions and the roots of the arrowleaf balsamroot.

**Did You Know:** Bees and hummingbirds pollinate these long, tubular flowers. The genus name *Penstemon* was derived from the latin *pente*, "five" and *stemon*, "thread" referring to the five stamens of these flowers. Penstemons are sometimes called "beard-tongues", either because of their hairy lower lips, or because of their bearded, sterile stamen. Approximately 60 species of penstemon are found in the Rockies.

## Narrow-leaved Yucca, *Yucca glauca*

**Family:** Lily, *Liliaceae*

**General:** The yucca is a coarse, evergreen, perennial herb. The stems are erect at 8 to 24 inches long coming from short, woody root crowns.

**Flower:** The flowers of the yucca are creamy white to greenish-white with showy, bell-shaped with 6 leathery, egg shaped sepals.

**Leaves:** The leaves of the yucca are stiff, linear, and sharp-pointed with the edges inrolled and whitish with a few frayed fibers.

**Fruit:** Hardened, oblong capsules 1 to 3 inches long with many black seeds.

**Life Cycle:** Perennial

**Phenology:** May to July



**Habitat:** The yucca is found in dry, open sites in the plains and foothills.

**Distribution:** From Southern Alberta south to New Mexico

**Uses:** The flowers of the yucca can be eaten raw in salads, soups, or be deep fried like squash. The bitter, green centers should be removed. The young pods can be roasted in ashes and eaten. The ripe fruits can be peeled, seeded, and baked. They have been use like apples in pies and jams. The leaves can be boiled with salt and eaten, but they are extremely fibrous. Tea made from the plant can be given to women in prolonged labor to speed delivery. Yucca fruit has been reported to induce vomiting, but it is said to be edible. The fibrous leave were used as ties for hanging household items and for making baskets. Some tribes wetted the leaves and twisted the fibers into cords, rope, and net. The leaves were used as paintbrushes. During World War 1, yucca fiber was harvested to make bags and burlap. The Navajo pounded the roots into suds to wash wool, clothing, hair, and the body. The juice of the leaves, boiled alone, were used as red dye.

**Did You Know:** The narrow-leaved yucca and a small, white night-flying moth, the yucca moth, depend on one another for survival. These flowers open fully only at night when they are visited by the female yucca moth. She then takes a ball of pollen and flies to another flower, where she eats through the ovary wall and deposits an egg inside. She then climbs the stigma, deposits the pollen from the first flower, and moves to the anthers to collect a second ball of pollen before flying to the next plant. By fertilizing the flowers, she assure the development of the seeds, which will provide food for her young when the eggs hatch, and new plants for future generations of moths.

## Golden Current, *Ribes aureum*

**Family:** Gooseberry, Grossulariaceae

**General:** Deciduous shrub without prickles, but with yellow, crystalline resin-glands, presenting a sweet odor.

**Leaf:** The leaves of the golden current are toothed with with 3 to 5 leaves clustered on a 3 to 10 foot stems.

**Flower:** Long, bright golden-yellow tubular-shaped flowers, ½ to 1 inch long with the spicy odor of cloves.

**Fruit:** The berries of the golden current are ¼ inch in diameter and can be yellow, red, or black.



**Distribution:** Ranges from Saskatchewan to Washington, south to California, and New Mexico.



**Habitat:**

Golden current grows in moist soil along fence rows, steams, and foothills.

**Uses:** Raw currants tend to be very tart, but these shrubs provide a safe food source in emergencies. Golden current is said to be one of the most flavorful currants. Currants are high in pectin and make excellent jams and jellies. Some tribes ate the flowers as a nibble or cooked the young leaves and ate them with raw fat. Others ate currants to reduce the chance of heart disease caused by a high-fat diet. The roots were sometimes boiled to make medicinal teas for treating kidney problems.

**Did You Know:** *Aureum* means golden. Birds, black bears, and rodents eat the fruit, and the forage is browsed by deer and elk when more palatable food is not available. This plant's wide distribution, leaf abundance, and availability to game make it an important browse plant. Currant shrubs growing by lakes were an indicator of fish, and in some legends, when currants dropped into the water, they were transformed into fish.

## Dill, *Anethum graveolens*

**Family:** Apiaceae (parsley family)

**General:** A member of the Apiaceae family. Dill is an annual cultivated for its seeds and leaves, which are often used interchangeably, as well as for its flower heads, which are a pickle seasoning. Plants grow about 3 feet tall and spread to an equal distance. In midsummer they bear flat-topped clusters of tiny yellow flowers that ripen into small flat seeds. A single plant produces ¼ cup of seeds, ½ cup of leaves and four to eight flower heads. Only rarely can it be harvested more than once.

Dill originated in Central Asia and most imported dill comes from Egypt, other Mediterranean countries or Eastern Europe.



**Life Cycle:** Annual

**Phenology:** Plants begin to grow in early spring. Leaves may be harvested at any time to use fresh. Harvest seeds when they begin to turn brown.

**Habitat:** Dill needs full sun and does best in a soil of pH 5.5 to 6.5 supplemented with compost or manure. Choose a spot protected from the wind to keep seeds from blowing away as they begin to ripen.

**Uses:** The name dill is probably related to Old Norse dilla “calm”, soothe”; it has been suggested that dill was used to relieve stomach pain in babies due to its antifatulent power. Dill is also used as a pickling spice. As a spice, dill leaves, seeds or flower heads may be used.

**Did You Know:** Dill is found, with almost no variation, in all Germanic languages and has been transferred to some non-Germanic languages, mainly in Northern Europe. These names are related to its “smell, aroma, or fragrance”.



## Johnny Jump Up, *Viola tricolor*

**Family:** Violaceae

**General:** The Johnny Jump Up is also known as the viola. It is a common European wild flower known as heartsease that grows as an annual or short-lived perennial. It was introduced into North America, where it has spread widely and is known as the Johnny Jump Up (though this name is also applied to similar species such as the Yellow Pansy). It is a small plant of creeping habit that grows about 8 inches tall and produces ¾ inch flowers in shades of blue, purple, yellow and red as well as white. These plants are hermaphroditic (contain both pistils and stamens) and can self-fertilize or are cross-pollinated by bees.



**Life Cycle:** Annual or short-lived Perennial

**Phenology:** Plant flowers from April to September.

**Habitat:** The Johnny Jump Up grows in short grassland on farms and wasteland, chiefly on acid or neutral soils. It usually

does best in light shade and moist soil liberally enriched with compost or leaf mold. Set plants 8 inches apart. Propagate by clump division; single-flowered varieties can also be grown from seeds sown in summer to blossom the following year.

**Uses:** As the name heartsease implies, this plant has a long history of use in herbalism. It has been recommended, among other uses, as a treatment for epilepsy, asthma, skin diseases and eczema. It has expectorant properties, and has been used in the treatment of chest complaints such as bronchitis and whooping cough. It is also a diuretic, leading to its use in treating rheumatism and cystitis.

Johnny Jump Ups or Violas make lovely, fragrant cut flowers, as well as, colorful garden flowers.

**Did You Know:** Long before cultivated pansies or violas were developed, the heartsease was associated with thought as in the “language of flowers” from the French “*pensee*” meaning thought. Shakespeare makes a more direct reference to the heartsease in *A Midsummer Night’s Dream*. The juice of the heartsease laid on sleeping eyelids will make a man or woman madly dote upon the next live creature that it sees. Equipped with such powers, Oberon and Puck control the fates of various characters in the play to provide Shakespeare’s essential dramatic and comic structure for the play.

Heartsease has a large number of alternative colloquial names...up to two hundred.

## Lamb's Ear, *Stachys*

**Family:** Lamiaceae

**General:** A member of the Lamiaceae family. This plant is also called big betony, woundwort and woolly betony. The plant may grow as tall as 3 feet, bears spikes of 1-inch deep-violet flowers. The flowers, which are good for cutting, are arranged in closely set whorls along the spikes. Lamb's ears or woolly betony, is most notable for its silvery-gray, white tongue-shaped leaves, which are 4 to 6 inches long. Their leaves are soft, velvety and fuzzy like a lamb. The foliage is highly prized as a ground cover. It is native to northern Turkey, the southern Caucasus mountain region and southern Iran where it grows on rocky hills and scrub areas.



**Life Cycle:** Perennial

**Phenology:** This plant flowers during late Spring and early Summer. Lamb's Ears will bloom until frost and will continue blooming if faded flowers are removed.

**Habitat:** Found often on rocky hills and scrub areas. This plant does best in full sun and very well-drained soil. Members of the *Stachys* genus cannot take excess water and should not be planted near a lawn.

**Uses:** The large leaves are highly prized for their foliage and texture and are used as fillers in gardens or as ground cover. They are good for pure pleasure to grace your garden with their downy softness and tall graceful purple flower heads.

Folkloric references use Lamb's Ears to staunch wounds (thus the old name woundwort) and as a soft washcloth. It is also associated with the medicinal herb Betony. Both are in the genus *Stachys*.

**Did You Know:** This plant grows on rocky hills and scrub areas, in other words, it is a weed and may be invasive. It is attractive to bees, butterflies and birds. It is also resistant to deer.

## Lemon Thyme, *Thymus citriodorus*

**Family:** Lamiaceae (mint family)

**General:** A member of the Lamiaceae family. Lemon thyme exhibits an unusual flavor, combining thyme aroma with the fragrance of lemons. It is best used when fresh. The plants are 8-12 inch evergreen bushes with intensely aromatic leaves. Originally from southern Europe, thyme is also cultivated in eastern Europe, northern Africa and the United States. Thyme plants can be grown in the garden in every part of the country and are often planted as an edging beside a path to scent the air. The thyme plant has tiny lilac-colored fragrant flowers that attract bees.



**Life Cycle:** Perennial

**Phenology:** Plant usually flowers in early summer until fall. A single mature thyme plant will produce ½ cup of fresh leaves at each of two harvestings in a season.

**Habitat:** Thyme needs full sun and a light, sandy soil with a pH of 5.5 to 7.0. Thyme originated in southern Europe but is now grown in eastern Europe, northern Africa and the United States.

**Uses:** Thyme is an aromatic herb of the mint family. Thyme is used as a spice, its flowers are used to prepare a syrup with a strong thyme fragrance. Lemon thyme is used to flavor fish and fruity vegetables.

**Did You Know:** The content of the essential oil of lemon thyme varies drastically with climate, time of harvest and storage conditions. The main components are the phenols scent of caraway. Lemon thyme was found to contain an essential oil rich in geraniol (up to 60%) with the lemon fragrance due to citral (14%).

The name thyme is borrowed from Latin *thymus*, which goes back to Greek *thymon*. The Greek meanings include “smoke”, “perfume”, “cure”, or “offer an incense sacrifice”. The reference is probably due to the strong, smoky odor of thyme. Yet there is also another, unrelated explanation that the Greek name actually comes from Old Egyptian *tham*, which denoted a plant used in the mummification process.

## Lupine, *Lupinus*

**Family:** Fabaceae

**General:** A member of the Fabaceae family. The genus comprises between 150-200 species, and has a wide distribution in the Mediterranean region and the Americas. The species grows to approximately 3-5 feet tall. They have a characteristic and easily recognized leaf shape, with soft green to gray-green or silvery leaves divided into 5-17 finger-like or palm-like segments that diverge from a central point; in many species, the leaves are hairy with silvery hairs, often very dense. The flowers are produced in dense or open whorls on an erect spike, with a typical peaflower shape with an upper 'standard', two lateral 'wings' and two lower petals fused as a 'keel'. The fruit of a pod contains several seeds.



**Life Cycle:** Perennial

**Phenology:** Plant usually blooms mid-spring to mid-summer.

**Habitat:** Found generally in meadows and openings from Texas to Canada, however, ideal habitats are considered to be New England, the Maritime Provinces, the Pacific Northwest and the region just north of the Great Lakes. Lupines do best in full sun or partial shade and a well drained neutral or slightly acid soil.

**Uses:** Lupines are popular ornamental plants in gardens. There are numerous hybrids and cultivars. Some species, such as *Lupinus polyphullus* and hybrids like the rainbow Lupine (*L. regalis*) are common garden flowers. Others, such as the yellow bush lupine (*L. arboreus*) are considered invasive weeds when they appear outside their normal range.

Lupines are also cultivated as forage and grain legumes. Three Mediterranean species of Lupine, blue lupine, (*L. angustifolius*), white lupine, (*L. albus*) and yellow lupine (*L. luteus*) are cultivated for livestock and poultry feed and for human consumption.

Nootka Lupine, (*Lupinus nootkatensis*), is common on the west coast of North America, and is one of the species from which the garden hybrids are derived.

**Did You Know:** Like most members of this family, lupines can fix nitrogen from the atmosphere into ammonia, fertilizing the soil for other plants.

The Texas Bluebonnet (*Lupinus texensis*), is the state flower of Texas.

Lupines can come in white, yellow, red or pink blossoms in addition to the most commonly associated blue hue.

## Sweet William, *Dianthus barbatus*

**Family:** Caryophyllaceae

**General:** Sweet William is a flowering plant in the family Caryophyllaceae, native to the mountains of southern Europe from the Pyrenees east to the Carpathians and the Balkans. It is a herbaceous biennial or short-lived perennial plant growing about 1 ½ to 2 feet tall with green to blue-green, smooth, tapered leaves. Sweet William is covered in mid-to late spring with massive flat-topped flower heads clustered at the top of the stems. The flowers heads are 3 to 5 inches across and are densely packed with tiny flowers in red, pink, white or combinations of those colors. The flowers have a spicy, clove-like scent.



**Life Cycle:** Biennial or short-lived Perennial

**Phenology:** Plant usually flowers from mid- to late spring.

**Habitat:** Sweet William is native to the mountains of southern Europe from the Pyrenees east to the Carpathians and the Balkans. It was introduced to England in the sixteenth century and later to North America. It thrives in loamy, slightly alkaline soil with sun to partial shade. Propagation is by seed, cuttings or division but seeds of cultivars will not breed true. The plant is self-seeding.

**Uses:** Sweet Williams' traditional use is in landscaping and cut flowers. Its height makes it convenient for flower arrangements. The plant is a favorite for borders, meadows and rock gardens and is most at home in informal country cottage style gardens. Sweet William is a good candidate for a naturalistic garden because its nectar attracts birds, bees and butterflies.

**Did You Know:** Many legends purport to explain how Sweet William acquired its name, but none are verified. It is variously said to be named after Saint William of York, William the Conqueror, or Prince William Augustus, Duke of Cumberland. Sweet William is a favorite name for lovelorn young men in English folkloric ballads. Another etymology is that William is a corruption of the French "oillet," meaning little eye.

## Fennel, *Foeniculum vulgare*

**Family:** Apiaceae

**General:** A member of the Apiaceae family. Fennel is native to southern Europe (especially the Mediterranean) and southwestern Asia. It is a highly aromatic perennial herb, erect, glaucous (smooth), green, and grows 3 to 4 feet high. Its feathery foliage is topped in summer by small clusters of tiny yellow flowers that are followed by brown seeds in late summer. A single fennel plant will produce 1 cup of leaves and ¼ cup of seeds during its growing season. It may be cut at least twice in the summer.

The leaves grow up to 40cm long; they are finely dissected, with the ultimate segments thread-like, about 0.5 mm wide. The flowers are produced in terminal compounds umbels 5-15 cm wide, each umbel section with 20-50 tiny yellow flowers on short stalks. The fruit is a dry seed from 4-9 mm long, half as wide or less, and grooved.



**Life Cycle:** Perennial

**Phenology:** The plant starts to grow in early spring and by summer has small clusters of tiny yellow flowers that are followed by brown seeds in late summer.

**Habitat:** Fennel has become naturalized along roadsides, in pastures, and other open sites in many regions, including northern Europe, the United States, southern Canada and in much of Asia and Australia. It is propagated by seed, and is considered to be a weed in Australia and the United States.

Fennel needs full sun and is easy to grow in any soil with a pH of 6.0 to 8.0.

**Uses:** Fennel is widely cultivated for its edible, strongly flavored leaves and seeds. The flavor is similar to that of anise and star anise, though usually not so strong. The bulb, foliage and seeds of the fennel plant all have places in the culinary traditions of the world. Fennel has been used for medicinal elixirs, breath fresheners, and flavorings in some natural toothpastes. Some people employ it as a diuretic, while others use it to improve the milk supply of breastfeeding mothers. The essential oil of Fennel is used traditionally to treat chills and stomach problems. Fennel oil is used in soaps and some perfumes. Fennel can also be used as an insect repellent.

**Did You Know:** Fennel is thought to be one of the nine herbs held sacred by the Anglo-Saxons. In medieval times, fennel was used in conjunction with St John's wort to keep away witchcraft and other evil things. This might have originated because fennel can be used as an insect repellent. Greek mythology claims Prometheus used the stalk of a fennel plant to steal fire from the gods.

Fennel is used as a food by the larvae of some Lepidoptera species including the Mouse Moth and the Anise Swallowtail.

## Lavender, Lavandula

**Family:** Lamiaceae (mint family)

**General:** A member of the Lamiaceae family. Lavenders are widely grown in gardens and are a genus of about 25-30 species of flowering plants in the mint family. Lamiaceae are native from the Mediterranean region south to tropical Africa and east to India. The genus includes annuals, herbaceous plants, subshrubs and small shrubs. The fragrance of true lavender is one of the joys of a perennial garden. The fragrance rises from the clusters of ½ inch lavender or purple blossoms that circle the plant's wiry stems in mid to late summer. The silvery gray leaves, shaped like blunt 1-inch needles, produce the same scent when rubbed. Lavender is an excellent choice for rock gardens and the edges of paths and borders.



**Life Cycle:** Perennial

**Phenology:** Plant usually flowers during mid to late summer from seeds or plants started in the spring. Cutting of the

heads of the plants after the flowers fade encourage fresh growth and flowers.

**Habitat:** Lavender is native from the Mediterranean region south to tropical African and east to India. The native range extends across the Canary Island, North and East Africa, south Europe and the Mediterranean, Arabia, and India. Because the cultivated forms are planted in gardens worldwide, they are occasionally found growing wild, as garden escapees, well beyond their natural range. Lavender grows well in full sun and well-drained soil.

**Uses:** Both flowers and foliage have long been used, after drying, for sweet-smelling sachets and potpourris. Lavender is also used for cut and dried flower arrangements. The plant is grown commercially for extraction of lavender oil from the flowers. This oil is used as an antiseptic for bug bites and for aromatherapy. It was frequently used as an aid to sleep. Lavender flowers yield abundant nectar, which yields a high quality honey for beekeepers. Lavender flowers can be candied and are used as cake decorations. Lavender is used as an herb. It is also used to flavor sugar, the product being called "lavender sugar".

**Did You Know:** Lavender is a deterrent to moths. During Roman times, flowers were sold for 100 denarii per pound, which was about the same as a months wage for a farm laborer or 50 haircuts from the local barber. Lavender was used in Roman baths to scent the water and was thought to restore the skin. During the Plague, lavender oil was said to ward off the Plague. This story could have some validity as the Plague was transmitted by fleas, which lavender is known to repel.

## Spearmint, *Mentha spicata*

**Family:** Lamiaceae

**General:** The various kinds of mint are so similar in plant and culture but differ in the flavor of the oil. All are herbaceous perennial herbs, with near square stems and opposite, simple leaves. Leaves are 2 to 3 inches in length and resemble the blade of a spear. Plants are semi-prostrate except flower stems, which reach 2 feet. Spearmint is the most intensely flavored of the mints and the classic ingredient for mint juleps. Spearmint grows 1 to 2 feet tall with saw tooth-edged glossy leaves about 2 inches long and bears purple, pink or white flower spikes in midsummer. A mature mint plant yields 2 cups of fresh leaves at the first cutting and smaller amounts at 10-day intervals thereafter.



**Life Cycle:** Perennial

**Phenology:** Spearmint blooms in midsummer and yields its leaves for flavorings in 10-day intervals.

**Habitat:** Spearmint has been naturalized from Europe and may be found in moist fields and waste places from Nova Scotia to Utah and south to Florida. It is also cultivated in Michigan, Indiana and as a familiar garden plant across the United States. It grows well in nearly all temperate climates. Mint prefers partial shade but can flourish in full sun to mostly shade. All types of mint do best in moist soil of pH 5.5 to 6.5 supplemented with compost.

**Uses:** All kinds of mint flavorings are used in candies, chewing gum (Spearmint chewing gum and Altoids breath mints are two examples), toothpastes, drinks and in cooking. The tops are mowed and the oil distilled off immediately. The leaves are used for flavoring. In herbalism, spearmint is steeped as tea for treatment of stomach ache.

**Did You Know:** It is widely stated that the name spearmint comes from the "spear" shaped leaves. Its leaves are, however, no more "spear" shaped than any other mint leaf. A more probable source for the name is the monastic order of St Pierre, whose monks are thought to have cultivated the herb. Spearmint leaves can be used whole, chopped or dried.

Lewis' red monkey flower, *Mimulus lewisii*

Also called pink monkey flower

**Family:** Figwort, *Scrophulariaceae*

**General:** Sticky-hairy perennial herb; stems clumped, 30-70 cm tall, from stout branched rhizomes. Leaves are opposite, lance- to egg-shaped, pointed, 3-7 cm long with strong parallel nerves, stalkless, usually irregularly toothed.



**Flower:** pinkish-purple with yellowish throats, snap-dragon-like, 2-lipped, 3-5 cm long and 2-4 cm wide, long stalked; few to several flowers in elongating clusters (racemes).

**Life Cycle:** perennial

**Phenology:** Flowers June to August

**Habitat:** moist, open sites, montane to alpine.

**Distribution:** British Columbia and Alberta to Colorado.



**Uses:** no known medicinal or edible uses, but the plant is one of the most attractive native plants in Montana.

**Did You Know:** The famed botanist Frederick Pursh named this plant in honor of Meriwether Lewis, since he used a specimen from Lewis' collection to identify the plant in 1814.

## Oregon grape, *Mahonia repens*

**Family:** Barberry, *Berberidaceae*

**General:** Low, wintergreen shrub, branches erect or prostrate, 10-30 cm long, often spreads by rhizomes (underground stems). Leaves alternate on the stem, pinnately compound, usually with 5-7 leaflets edged with spine-tipped teeth (holly-like).

**Flower:** Yellow, about 1 cm across, with 6 petals and 6 sepals forming an elongated many-flowered cluster.



**Life Cycle:** perennial

**Phenology:** blooms from April to June.

**Habitat:** Forested slopes, foothills to montane.

**Distribution:** Southern British Columbia and Alberta to New Mexico.



**Uses:** The juicy berries make good jelly, jam, and wine. They can be eaten raw, but they are quite sour.

**Did You Know:** Crushed plants and roots are antiseptic and antibacterial, and they can be used to aid the healing of wounds. The National Standard Dispensatory lists many uses, but it also warns that an overdose can be fatal!

## Ocean spray, *Holodiscus discolor*

**Family:** Rose, *Rosaceae*

**General:** Erect, deciduous shrub, 1-3 m tall; branches slender, arching, slightly angled by leaf bases, brownish and peeling with age. Leaves alternate, egg-shaped, coarsely toothed or shallowly lobed.

**Flower:** Creamy white, saucer-shaped with 5 broad petals about 5mm across, many flowers occur in a feathery, 10-17 cm long, branched cluster.



**Life Cycle:** perennial

**Phenology:** June to August

**Habitat:** Dry to moist, open or wooded sites; foothills to montane.

**Distribution:** Southern British Columbia to Idaho and Montana

**Uses:** The small, dry, flattened fruit was eaten by some tribes; roots used to make tea. The extremely hard wood was used to make breast plates, arrows, digging sticks, and other primitive utensils.

**Did You Know:** The genus name *Holodiscus* comes from the Greek holo, “whole” and diskos, “disk,” in reference to the unlobed or “whole” disk surrounding the ovary.

**Red-osier dogwood, *Cornus sericea***

Also known as *Cornus alba* and *C. stolonifera*

**Family:** Dogwood, *Cornaceae*

**General:** deciduous shrub, 1-3 m tall, erect or spreading, branches opposite, purple to red in color; red-osier dogwood often clumps into thickets of stems. Leaves are opposite along the stem, egg- to lance-shaped, 2-10 cm long, pointed, with 5-7 prominent, parallel veins that converge towards tip, red in autumn.

**Flower:** white, about 5 mm across, in dense, flat-topped clusters (cymes), 2-5 cm across at the branch tips.



**Life Cycle:** perennial

**Phenology:** Flowers May to July

**Habitat:** moist, wooded to open sites; plains to montane.

**Distribution:** southern Yukon and Northwest Territories to New Mexico.



**Uses:** Native peoples collected the fruits for food, but they are very bitter by modern day standards. They were sometimes mixed with other sweeter berries to make a “sweet and sour” mix.

**Did You Know:** Red-osier dogwood is browsed by moose and other ungulates, and birds and bears enjoy the bitter, white berries. It is conspicuous in winter, being the shrub with the very prominent red stems often found in moist environments such as drainages and along river beds.

## Quaking aspen, *Populus tremuloides*

Also known as trembling aspen

**Family:** Willow, *Salicaceae*

**General:** deciduous tree, 10-20 m tall; trunk slender; branches fairly short. The buds are small and not particularly resinous (sticky) or fragrant. Leaves alternate on the branches, are oval to round, and 2-8 cm long, pointed at the tip. Stalks are long, flattened, and slender, allowing the leaves to “tremble” with light breezes.

**Flower:** tiny, in dense, long, slender, loosely hanging clusters called catkins; male and female catkins are on separate trees, 2-10 cm long.



**Life Cycle:** perennial

**Phenology:** flowers March to May

**Habitat:** dry to moist sites; foothills to sub-alpine.

**Distribution:** Alaska to New Mexico

**Uses:** In spring when the sap began to flow, the sweet, pulpy inner bark was considered a treat for children of some of the northern tribes; it was scraped off in long strips and eaten raw. Aspen wood was used to make tipi poles, paddles, and bowls. Herbalists used aspen bark to treat intermittent fevers and urinary tract infections.



**Did You Know:** This sun-loving tree often colonizes slopes that have been burned or logged. Female trees can produce millions of seeds each year! But the seeds live for only a short time and most do not germinate.

## Skunkbush, *Rhus glabra*

Also called squawbush

**Family:** Sumac, *Anacardiaceae*

**General:** deciduous shrub, 1-2 m tall, rounded shrub. Bright green leaves are divided into 3 broad-tipped, lobed leaflets that taper to wedge-shaped bases. Its small dense flower clusters appear before the leaves, and they produce fuzzy, reddish-orange fruits.



**Life Cycle:** perennial

**Phenology:** Flowers April to July.

**Habitat:** along streams on plains and foothills.

**Distribution:** Idaho and Alberta to New Mexico

**Uses:** Fruit was eaten raw, or sometimes ground with a little water; they were often mixed with other foods, especially sugar and roasted corn. The inner bark was also eaten.

**Did You Know:** Sun shades or hats were woven from smaller sumac branches. It was said that if a child placed a sumac on his head, he would stop growing!

