

Bunchberry Dogwood - (*Cornus canadensis*)

Original Species Profile by Lois Wythe

Bunchberry dogwood

Cornus canadensis
Cornaceae



A brilliant coral-red cluster of berries identifies the showy bunchberry.

Queen's Cup Bead Lily

Clintonia uniflora
Liliaceae



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One of the most widespread of the dwarf forest plants. Found on moist shady slopes of meadows and woods to 8000 ft. elevation

Habitat

Forest Service refers to this as a moderate moisture indicator. Found in moist forests at moderate elevations from the Coast to the Rockies. Often found together with bunchberry.

Form

A low-growing, trailing sub-shrub 6 to 8 in. tall. Spreads underground forming dense mats often several feet across.

Small perennial rhizomatous plant, deciduous but green throughout the growing months.

Stems

Near the top of each little upright stem is one main whorl of attractive leaves. Evergreen elliptical in shape, with prominent veins

Leaves

Leaves are borne at ground level and consist of 2 to 3 basal leaves, oblong and 3 to 6 inches long. Silvery hairs cover the undersides and margins.

Flowers

What appears from a distance to be a single 4-petaled flower turns out, on closer look, to be a solitary terminal, greenish white tinged in purple, surrounded by inch long 4 white to pinkish bracts. Blooms June to early August.

One single six-part and showy white flower, well over an inch across, appearing in July and August. In form, a little like a miniature Easter lily.

Fruit

Very tight clusters of coral-red berries containing 2 seeds each, appearing in late summer. They are edible, but mealy and somewhat bitter. However they are great favorites of grouse and white-tailed deer. This highly decorative plant continues its display with brilliant shades of bronze, red, and purple before dropping off in the fall. Indians of British Columbia sometimes used the mashed berries in a kind of pudding.

This ground-cover plant is widely used as an ornamental and comes easily from seed or transplants.

One solitary, lustrous deep blue berry borne at the end of a stem, enfolded in the attractive leaves. Berries are too scarce to appeal to berry pickers. They have a poor flavor and in my opinion are much too pretty to pick. Great grouse food. Ethnobotanists report that one Canadian tribe applied the mashed berries to eyes when stuck together after sleep.

Note: Named for Gov. DeWitt Clinton (1769-1828) (New York) who was also a noted botanist.

Choke Cherry (*Prunus virginiana*)

Original Species Profile by Lois Wythe

- Rose family
- Most widespread tree/shrub in U.S.
- Zones 2 to 8
- Deciduous
- Height 10 to 25 feet
- Prefers full sun
- Water requirements moderate to high
- Native to North America and to this area
- Habitat – moist woods, thickets, riverbanks
- Flowers are white in long racemes. Fruit is shiny red to dark purple. Edible but sour and astringent.
- Idaho champion: 1972, in Bingham County – 8 foot crown, 46” circumference, 39 feet tall !

Chokecherry is a large, straggly shrub or small tree, usually well under 20 feet tall in this area. It has smooth, reddish brown bark on the young branches and blackish and rugged bark on the mature trees.

The wood is used in furniture making. The Indians used the wood for handles and the shredded bark for decorating basket rims. It was probably the Indians who showed the colonists the medicinal benefits of chokecherry and how they made a bark tea for diarrhea and lung ailments and, since it helped to cause sweating, used to bring down fevers. It was also an ingredient in various tonics and extracts were applied directly to abscesses and ulcers.

We probably know Chokecherry best as an ingredient in cough medicine, and wild cherry cough drops and wild cherry syrup are still wintertime best sellers everywhere.....this, despite the fact that pharmacologists say it is only slightly effective. While it may not stop coughs, it is certainly very soothing to a raw throat and for this writer, it is the cough medicine of choice.

The raw fruits are VERY sour (hence its common name) and the leaves and pits are poisonous as they contain hydrocyanic acid which causes loss of balance and convulsions. The fruit is very popular for jams and jellies and is used in making a dry wine. For medicinal purposes the young, thin bark is best. Collect in autumn, clean off any dead tissue, dry, and store in dark

glass containers. Medicinal herbalists say that the tincture is excellent for diarrhea in children especially – 15 drops in a glass of water.

Chokecherries are a favorite food of raccoons and many other animals.

The tiger swallowtail and admiral butterflies use chokecherries for their chrysalis phases, which are usually green or brown and mimic pieces of leaf or wood.

Kinnikinnick Native Plant Society Inc.

Kinnikinnick (Arctostaphylos uva-ursi)

Original Species Paper by Lois Wythe

Ericaceae – Heath family

(aka Bear Berry, Uva-ursi, Bear's Grape, Mt. Box, etc.)

Kinnikinnick, by whatever name it is called, is a native ground-cover plant much beloved by humans, the animals, birds, and even the hoary elfin butterfly, which lays its eggs on the foliage. Native and prolific in North Idaho, and admiring both its appearance and catchy name, it was a unanimous choice for the name of our Chapter of the Idaho Native Plant Society.

It is pronounced KINNY-kin-ICK, or Kinn-ICK-innick, and comes from the aboriginal – most scholars say the Algonquin – meaning “smoking mixture.” Although the plant was native here, it seems to have been the fur traders’ employees who brought the name west with them. Its other common name, Bear Berry, comes from its genus ARCTOSTAPHYLOS, from the Greek word for bear – Arktos and staphylos – a bunch of grapes, which its berries resemble. The species name of “uva-ursi” is apparently from the Latin “uva” (grape) and “ursus” (bear).

Leaves, Flowers, Fruit: It's easy to spot a mat of ground-hugging, bright green, leathery, spoon-shaped evergreen leaves, urn-shaped flowers in spring, and its red berries in the fall. The bark is papery, and its peels easily.

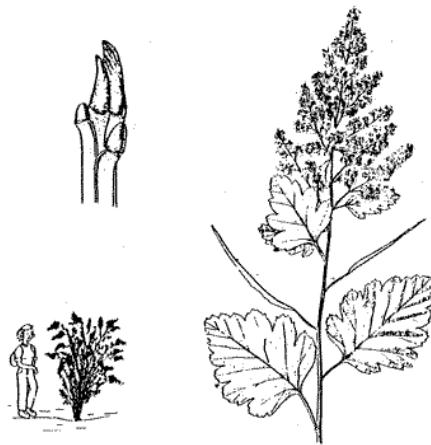
Habitat: Throughout zones 2 thru 9, it grows in low to alpine elevations on sandy, well-drained, exposed sites primarily. Here in North Idaho, it is frequently found on the edge of forest clearings. (In the Arboretum, we have placed it in several different areas where it grows well, but it's happiest on the dry, sandy edges of the rocky beds near the sidewalk entrance from the parking lot.) It is a ground covering, mat forming, trailing shrub, usually not more than 6” high. Loves the sun.

Ocean Spray - (Holodiscus discolor)

Original Species Profile by Lois Wythe

OCEAN SPRAY Holodiscus discolor

Family - Rosaceae



Botanical drawings of Ocean Spray, such as the excellent ones from FOREST PLANTS OF NORTH IDAHO, at left, give little indication of the glorious sight of hill-sides of these native shrubs in bloom in one of springtime's earliest shows. Drive down Bottle Bay Road, for example, in June and you are almost surrounded by their beauty, or take any of the roads along Kootenai Bay and the Sunnyside area.

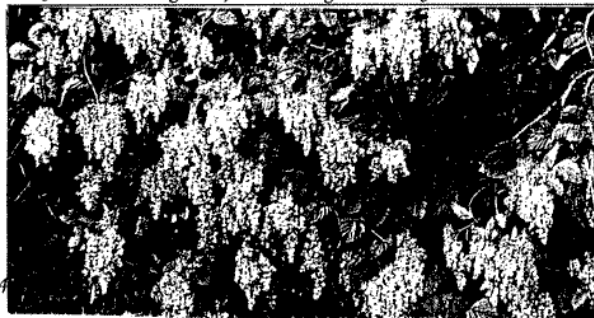
This erect shrub, from three to about nine feet in height, has dullish green leaves which are toothed or lobed on the margins. Examine the leaves and you will note that green upper sides have whitish hairs on the undersides. Leaves are alternate.

The dense clusters of a creamy white color are made up of very tiny flowers hanging in the dense terminal panicle. As the flowers age, they turn brown and often remain on the bush through the winter. By August, the bush has a shaggy appearance due to these brown clusters.

If the flowers are to be used in dried form for crafts, they should be gathered just as the tiny flowers first open, and hung to dry, in clusters.

While the young stems are supple and slightly ridged, older stems will have a shredding bark and the older branches are very tough and hard, giving rise to another name for this plant, "Ironwood". The fruits are very tiny with single seeds. Though they are so tiny, if you look closely each flower has five petals and five smaller sepals, with about twenty stamens.

Commonly known as Ironwood it was used by almost all of the natives and groups in this region to make bows, digging sticks, harpoon shafts, and spears because of its hardness and strength. It is also reported that the Okanagans used the wood to make tipi pins, drum hoops and sticks used in gambling. The Indians are reported to have eaten the seeds both raw and cooked. While fire is definitely an enemy, the bush will often regenerate in five to ten years, according to the forest service.



March, 2004

Photo: Jerry Pavia

L.W.

Oregon Grape - (Mahonia repens)

Original Species Profile by Lois Wythe

"Oregon Grape," says Botanist Underhill, "is rather like the prophet—unsung in his own country." Common in this area, it is often overlooked these days, but not so among the Indians and colonists, and it appeared in all the pharmacopoeias until the late 1880's. The Scottish botanist David Douglas, who roamed around here in the 1830's, identified it very quickly as a fine ornamental shrub.

There are more than 100 species of Mahonia, says HORTUS THIRD; and since there are some 500 species of Berberis, taxonomists finally decided to move it into its own genus - Mahonias. However, many seed catalogs, and even some states like Idaho, still classify it under Berberis, so here's another plant you may need to check out in more than one index. The name comes from Bernard M'mahon, a distinguished early American horticulturist who died in 1816.

In North Idaho we have three native Mahonias, the most common being actually the least attractive, *Mahonia repens*. The Oregon state flower is *Mahonia aquifolium*, a small shrub in contrast to our low-growing Creeping Mahonia. A third plant *Mahonia nervosa*, quite rarely seen now. Betsy Hammet has seen it only rarely where she found it in hemlock/cedar woods in the French Creek drainage up the Pack River .

It's difficult to mistake this striking evergreen plant. The flowers are small, bright yellow, with six petals, nine sepals, six stamens, in 1 to 3 inch racemes in dense clusters. Leaves are from 4 to 6 inches long, and difference in the three species are evident in sketches. They are dark green and lustrous in spring and summer, turning to bronze, gold, crimson and purple in fall.

The fruit (it is NOT a grape) is deep blue and purple clusters of berries! While not tasty to humans, they are certainly edible. Our M. repens is a ground-hugger, while the other varieties may reach 3 to 6 feet and are much more shrub-like. The berries are best made up as a tart jelly to use as a meat accompaniment. Crushed and made up into a drink they are sometimes used by herbalists to cool fevers. The berries are also high in Vitamin C and were often used to treat scurvy. However, it is the rootstock's healing qualities which were so prized by the Indians who crushed and dried the yellow roots to cure a wide variety of ailments like ulcers, heartburn, rheumatism, kidney problems, and some skin conditions. The early settlers learned about this root's amazing medical properties in the 1800's and Oregon grape tonics were a popular

market commodity. Herbalists recommended soaking the roots in warm beer to relieve hemorrhaging.



The active ingredient that makes Oregon grape such an effective remedy is well known to us today. It is an alkaloid called berberine (which powerful healing constituent is found also in goldenseal). Berberine stimulates bile secretions and modern herbalists and homeopaths believe it promotes good liver function and purifies the blood. Most herbal manuals recommend steeping an ounce of dried root in a cup of tolling water, with a dosage of 3 tbsp. daily, although they warn that persons with over active livers should stay away from this root.

Landscape uses: Because they are so adaptable and so hardy, all of the Mahonias recommend themselves to home landscape use. Many hybrids have been developed too, to take advantage of the holly-like aspect of the shrub varieties in particular. Our *M. repens*, the creeping variety, is a fine ground cover. It is at its very best in partial sun and fairly moist conditions and will tolerate considerable traffic when fully established. Great for edges like driveways and paths. In the Arboretum we are edging many of our paths with Oregon grape. And it isn't fussy about soil types, either. If you are going to transplant pieces of established plants, this will be done most successfully in the very early spring before the new spring growth starts—as early as the snow is gone. If transplanting from an area of deep shade into a sunnier spot, do it gradually.

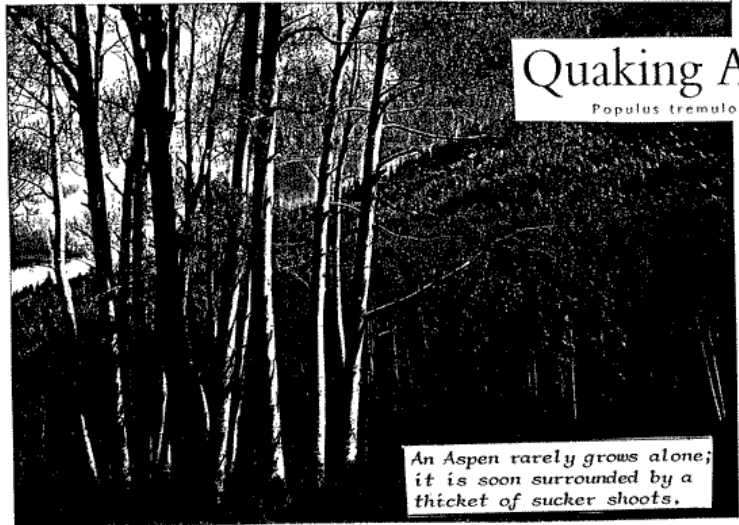
Wildlife: Fruit-eating birds and animals will eat the berries and the shrubs provide shelter for both. Note: Deer seldom browse this plant.

Pests and diseases: leaf spot, powdery mildew and rust can be damaging. Good air circulation seems to be the best preventive, but planting at the proper time seems to be a beneficial influence, too. Spring is better than fall.

Other Uses: And if you have ever seen objects made of warm-toned Oregon grape, polished carefully, you will always remember it. Crucifixes are often made of this wood. Beautiful yellow and tan dyes are also made from the roots, and even from the stems and leaves. The fruit yields a purplish-blue color to wool if mordanted with alum.

Quaking Aspen - (*Populus tremuloides*)

Original Species Profile by Lois Wythe



Aspen catkins open in spring as long, dangly, lambs' tails.



Buds are resinous with sharp tips, reddish brown in color.



Fruit catkins burst before midsummer, releasing fluffy masses of white cotton, which is the hair around the tiny black seeds.



Male catkins are brown and thicker than the grey-green females. Both are densely clad in long white hair-like pussy fur.



Bark is smooth, greenish-white to cream, which becomes blackish, vertically furrowed, and rough from injuries or old age.



Leaves are between triangular and round, finely toothed on the edges, 1½ to 3 in. across.

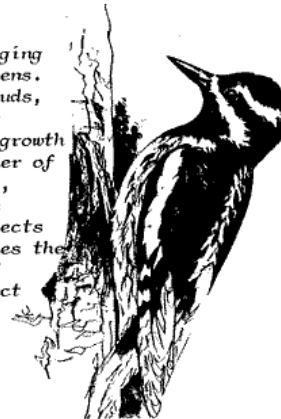
Coppery brown when first appearing in spring.



They are borne on thin, flattened stems (petioles) which allows the leaf to flutter in the slightest of breezes, causing them to "quake".

Surfaces are smooth with the top a slightly darker green, bottom pale green and almost silvery. Bright yellow autumn leaf color.

It has been estimated that 500 species of animal and plant, ranging from elk to fungi, depend on Aspens. Grouse and quail browse on the buds, catkins, and seeds, and numerous cavity-nesting birds occupy old growth Aspen groves, including all manner of owls, swallows, wrens, bluebirds, nuthatches, and chickadees. The red-naped sapsucker feeds on insects extracted from the bark, and likes the sap. Tent caterpillars and leaf miners depend on Aspen and attract other species.



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Drawings: FIELD GUIDE TO FOREST PLANTS OF NO. IDAHO

L. W.
March 2003

Saskatoon Serviceberry - (*Amelanchier alnifolia* Nutt.)

Original Species Profile by Lois Wythe

Saskatoon Serviceberry *Amelanchier alnifolia* Nutt.

Family: Rosaceae

The first shrub to bloom in the spring, Saskatoon Serviceberry's pretty, 5-petal, apple-like white blossoms are borne on short racemes of three to twenty blossoms. Ranging from head height to six to twenty feet, this deciduous plant may be very erect, or spreading, with a shape often influenced by a neighboring tree or boulder. The Idaho champ, named in 1978, in Nez Perce County, was 32 ft. high with a 5 ft crown.

Leaves are alternate, about 2 inches long. They are dark green above and pale green below, long-stem, with rounded tips and toothed margins three-quarters of the way down the leaf, then smooth to its base.

Reddish brown bark ages to gray. Reddish brown buds alternate and are covered with hairy edges on the scales. Fruits are large purple berries which ripen earlier in summer than most wild fruits--the reason for one of the common names, "June Berry".

Another name applied to this shrub — "Shadbush" and "Shadblow". Shad is a fish which swims upstream at the time this shrub produces its masses of flowers, or "blows". The name "Saskatoon" is considered to be a shortened version of the Blackfoot name for the bush, "Mis-ask-a-tomina".

Serviceberry is rated for zones 2 to 7, and we have it in most areas of the Panhandle, where it likes moist, partial shade, forest openings, and streamsides. It also grows in higher elevations where it is lower growing and more shrubby. It adapts to a wide range of soils. It can be grown from seed, but we are told the seed must be very well cleaned to eliminate germination inhibitors in the fruit. It's easy to root from the many suckers which develop at the base of the plant.

The twigs and leaves are appealing to deer. The fruit is relished by squirrels and chipmunks and very many birds. Hunters report seeing bears stuffing their berry-filled paws into their mouths, as we might peanuts. To keep the berries for yourself, you may have to grow your serviceberries in cages, or tent them.

This is an important plant for the Coral Hairstreak butterfly for overwintering eggs and providing the caterpillars with food from the developing berries.

As to flavor, there is much difference of opinion. Some say the flavor quality is good to very good, sweet and juicy, with a somewhat apple-like flavor. Others consider the berries edible, but rather mealy and certainly not choice. Particularly east of the Rockies people regard this berry highly as a plump, sweet basis for jelly and pies. In the interior of the Northwest, where it is abundant and bears heavily, it is not



Illustration from FOREST PLANTS OF NORTHERN IDAHO, a publication of the USDA and the Idaho Forest Service

Western Larch - (*Larix occidentalis*)

Original Species Profile by Lois Wythe

Characteristics: One of our most beautiful, easily identified, and unusual conifers is the Western Larch (or, if you come from my part of Idaho, the Tamarack). It is the largest of the larches and well known and loved for its colorful crown which is a lustrous green in the summertime, a spectacular yellow gold in the fall before it loses its needles, becoming a tall needle among the evergreen conifers around it on the hillsides. We all watch for those amazing gold candles against the greens in the fall, and then wait breathlessly for the appearance of the chartreuse green needles which signify our late spring season. Western larch grows in ecosystems subject to frequent fires and is not very tolerant of shade. Young trees have thin and scaly bark, but this becomes deeply furrowed and reddish brown as the tree ages. From a distance, and noting only the trunk, its bark can be mistaken for ponderosa pine.

The leaves are very soft and deciduous needles, pale green until they turn the characteristic golden in the fall. They grow in circular clusters of 15 to 20 on the spur twigs and singly on the current year's growth. When open, the cones are egg-shaped on short stalks, with wide scales and long slender bract tips extending beyond the scales.

And this is a TALL tree, with the Idaho record set in 1977 at 142 feet tall with a 5-1/2 foot crown. And it's a skinny tree. The sight of a grove of tamarack responding to a strong wind is truly breathtaking as these tall "toothpicks" nearly bend to the ground. You will seldom find a tamarack broken off by wind.

Commercial uses: Western larch yields exceptionally high quality construction materials. The heavy, hard wood is used for poles and wherever strong supports are needed. It also makes good firewood and is frequently the wood of choice for woodstove users. The bark contains a water-soluble gum which is used for offset lithography and in pharmaceuticals, paint and ink products. (Arabino galactan)

Medicinal uses: You may be surprised to learn that this tree was very important to the Indians for its medicinal values and, as pointed out, is still used in making some modern pharmaceuticals. The sweet-tasting gum produced hardens when it is exposed to the air and the Indians in our region would break off the gum and chew it. Galactan, a natural sugar

contained in the gum, resembles a bitter honey and can be used in medicinals and as baking powder says Parish, Coupe and Lloyd in their PLANTS OF SOUTHERN INTERIOR BRITISH COLUMBIA AND THE INLAND NORTHWEST. (This team is also responsible for the information that it was described by Lewis and Clark in 1806, but not recognized until 1849 when it was named by Thomas Nuttall.)

Medicinally, it is still used and recognized today. Alma Hutchens, a noted authority on the uses of native American herbs, tells us that it is the inner bark which is useful because of its astringent and gently stimulating qualities and it was used especially to activate enlarged liver conditions. It is also diuretic and laxative, and good for poisonous insect bites. In his famous BACK TO EDEN, J. Kloss recommends it as a weak tea for eyewash and dropped in the ear to relieve earache. As a tea, it is prepared using a teaspoon of the inner bark to a cupful of boiling water and steeped for 30 minutes. It is used externally to clean ulcerated sores.

At the Arboretum,

although most native conifers were present when we began our work there, the Western larch was missing, perhaps due to its



enemy, the larch caseborer (*Coleophora laricella*) which was a European import and is a major pest which feeds on the young foliage. On Arbor Day in 2001, with the help of a group of young forestry students and some 4-H children, we replanted a grove of larch near the Ella Street boundary and they are about four feet tall by now.

Landscape use: If your property is large enough for an additional tall tree, you might like to consider tamarack, especially if you have children. The soft foliage has much tactile interest for them, and the changing colors are always interesting.

As punctuation among our many beautiful conifers on our surrounding hills, it has little competition.

Western Redcedar - (Thuja plicata Donn)

Original Species Profile by Lois Wythe

The Latin name, *Thuja plicata* Donn, refers to a tree having sweet-smelling wood whose leaves are plaited or folded.

Western Redcedars are heavily buttressed trees 150 feet to 175 feet high, and five to eight feet in diameter, where they have been allowed to remain naturally. Until this decade, exceptional trees would reach heights of 200 feet, with diameters as much as ten to sixteen feet.

The really large trees are now found mostly in protected reserves and areas. The center of large trees is usually hollow. In densely crowded stands, the trees have long, clear trunks. The narrow conical crown of young trees reaches to the ground, and even in dense stands the lower branches are retained until the tree reaches heights of 50 feet to 80 feet. In old trees, the crown becomes short and blunt. On young trees, the slender limbs curve upward, but with age, they swing downward in a long graceful curve. While diameters of 24 to 40 inches are reached in 200 to 500 years, some of the largest trees are believed to be 800 to 1000 years old. Latest data available shows the 1979 Idaho champion was 177 feet tall, 680 inches in circumference, with a 9.9 foot crown, and was located on Palouse Road in the Clearwater National Forest.

The strongly aromatic wood is reddish brown when freshly cut, but becomes dull brown with exposure. It is free from pitch, of medium to coarse grain, is very soft and brittle, and is unusually resistant to decay and insects. It scarcely warps or shrinks and the Indians of our area used it for totem poles, canoes, lodges, and teepee poles.

Beautiful, flat lacy sprays of scale-like, bright green leaves and upturned, leathery brown cones are characteristic of this tree. Glossy above, distinctly darker with fragrant white triangular spots beneath, they remain on the tree about 3 years.

The cinnamon red, fibrous bark is less than an inch thick. The thin bark is so tough that the Indians peeled strips 20 to 30 ft long from young trees for making baskets, and it was even used for rope or fish line.

One of the most interesting feature of our Western Redcedar is the life cycle of the cones it produces. In the tree key author Herbert Edlin describes this cycle as follows: "Thuca cedars bear small, oval, reddish male flower groups, later yellow with pollen, near shoot bases in

spring. Minute female flowers, cone-like green or purple, arise on very short stalks on outer branchlets. Cones ripen brown leaf-like scales in autumn, then open from tight ovals to spreading clusters. Tiny brown oval seeds, each with a narrow pale brown wing on either side, escape and are spread by wind. Seedlings raise two oval seed leaves, then a shoot with simple narrow needles projecting all around. Adult fern-front foliage first appears on side shoots, usually in the second year.”

These redcedars are the darlings of crafters who use them often in floral crafts and potpourri. Although the wood of the Thuca redcedars is the valuable economic product, the cones sell from \$5 to \$10 per pound wholesale, and the green redcedar tips, called “fans” bring an equal price and lend color and scent to floral products.

In some years the cone production is really prodigious. 2000 was a year of heavy cone production, while 2002 produced a lighter crop, perhaps being due to a very dry year.

A household use for redcedar foliage is in the repelling of insects, and cedar chips are a well-known filler for pet bedding.

At the Arboretum we have many handsome specimens of fully mature trees. An especially beautiful redcedar is at the Arboretum entrance near the log cabin.

Blue Flax - (*Linum usitatissimum*)

Original Species Profile by Lois Wythe

Wild cousin of the commercially important *Linum usitatissimum*, our native blue flax is beloved of the bees and butterflies, wild flower gardeners, and hikers who happen upon a patch of this slender, graceful plant with its lovely pale blue flowers. It also charmed Captain Meriwether Lewis when he came upon it in his exploration of the north Idaho territory — and it is his name which distinguishes our native blue flax.

The lovely blue flowers last for only a day, but are so quickly replaced with new blossoms that the plant appears to be continually in bloom most of the summer, to be followed by the rounded capsules which split to release the familiar black seeds. The photocopy above, made in late September, shows the single erect stem, branching toward the top, with its hanging seedcapsules, some of which have already opened. The earlier delicate blue flowers, about one and one half inches across, have five petals, delicately striped and minutely scalloped on the edges. Leaves are alternate, without stalks, pale green, and spearhead shaped.

The habitat is described in PLANTS OF SOUTHERN BRITISH COLUMBIA AND THE INLAND NORTHWEST as "scattered and frequent at low to (less commonly) mid elevations throughout the dry climates of the region, in dry grasslands, sagebrush steppes, and open ponderosa pine and Douglas fir forests." It is frequently seen along railroad tracks. *Linum* is from the Greek, meaning a thread or rope.

The Flax family has a long, long history. Records reveal that in ancient Babylon flax was already being grown for food in 3000 B.C. Famed Greek physician Hippocrates (460-377 B.C) recognized its value in relieving intestinal discomfort. He is credited with saying often that one should "Let food be your medicine and your medicine be your food." Certainly Flax qualifies on both counts. Pliny went even further and said "What department is there to be found of active life in which flax is not employed?" and many medieval herbalists described the making of linen-giving Flax one of its major important uses.

Undoubtedly these ancients referred to *Linum usitatissimum* which is the flax of commerce to this day and not to the *Linum perenne* to which Meriwether Lewis' name was appended, and it is this latter variety that we have planted at the Arboretum. However, the colonists would have been very familiar with the useful Flax and probably brought plants with them for food and

cloth and perhaps even with commerce in mind. It was cultivated as an annual crop. While we cannot call the *L. usitatissimum* truly "native", the constituents and uses of both are the same — providing food and medicine for humans and animals, and fibers which can be spun into linen thread. Who has not used linseed oil as a drying agent in paints and varnishes, car wax and polishes of various kinds? An element of this oil is even used in malting oilcloth and linoleum. Leftovers in flaxseed oil are made into a fattening agent for cattle.

While the food and medicinal uses of flax have been known for thousands of years, it has only been recently that the empirical evidence has been substantiated through clinical tests and scientific studies throughout the world. The powerful benefits of this reasonably priced food and medicine are finally being given their due and are being hailed in newspaper articles, TV productions, books and lectures and have moved well out of alternate therapies and into the mainstream of nutrition and medicine, even to being hailed as a defense against cancer. In addition, their culinary virtues are being revealed by the best of bakers and cooks, and wondrous recipes are being presented to us, using both whole and ground flax seeds, and the oil.

Flaxseed oil is the highest single source for the valuable omega-3 fatty acid — 50 to 60 per cent. The oil spoils rapidly, particularly when exposed to heat, and should always be purchased in small quantities and with a label which indicates the product was cold-pressed, and gives the date. The oil should be consumed within three weeks; hence the small quantities. For more information about flax, and particularly for the exceptional recipes (with color photos) which it contains, may I recommend the small booklet by Siegfried Gursche, *FANTASTIC FLAX*, published by Alive Books of Vancouver, Canada, for \$9.95. (I found my copy at Truby's Healthfood Store in Sandpoint.)

The medicinal uses of Flax have been known for centuries and lie primarily in the seeds. (Note that immature seed pods are poisonous.) The seeds are said to contain about 40% fixed oil, mucilage, wax, tannin, gum and protein. The crushed seeds, known as linseed meal, are made into a useful poultice, especially if combined with mustard, for abscesses, ulcers, and deep inflammations. Some herbalists add lobelia seeds for treating boils. Linseed oil is a frequent ingredient in cough medicines. Tea made of about an ounce of seed to a pint of boiling water and taken with lemon juice and a little honey is often recommended for colds and coughs. Linseed is a well-known remedy for constipation. A teaspoon of seeds should always be followed by up to two glasses of water which will cause the seeds to swell and produce a gentle laxative. Many people routinely add the seeds to breakfast cereal daily — remembering the necessary high fluid intake.

There are many traditions associated with flax. In magic, it protected against sorcerers, and it is said that Bohemians believed that if children danced in the flax field, they would become very beautiful when they were grown. For a very fine look at medicinal and traditional uses, the discussion of flax in Maude Grieve's *A MODERN HERBAL* is a wonderful reference, now accessible in Dover's reprint of this classic.

There are many colorful descriptions of the making of linen thread in historical literature, but the process is much the same now as that used by the early makers of homespun linen. The linsey-woolsey of colonial times was not a very fine fabric, but it was durable. Rodale's *ILLUSTRATED ENCYCLOPEDIA OF HERBS* gives a clear description of the process:

"The flax plants, which have been pulled and allowed to dry (with the seed heads cut or combed out), are soaked in water for several weeks to rot the woody stems around the fibers, a process called retting. When the stems are sufficiently rotted, the plants are dried. Then a device called a flaxbrake is used to break the stems in several places. Next a wooden swinging knife is used to scrape or "scotch" the broken stems, removing the woody shards of stem from the fibers. These are passed through the teeth of a hetchel, straightening them and pulling out all the remaining stem pieces. The resulting material resembles a fine, fluffy horsetail. The fibers are then spun into yarn."

In the landscape, flax is especially grown in herb and flower gardens as an ornamental, particularly in borders, since the plant grows only a couple of feet tall and is in bloom for a long period. *L. perenne* is a perennial for only about three or four years; but since it self-seeds prolifically, it seems much more long-lasting. *L. usitatissimum* is an annual and is the farm-crop flax.

"What department is there to be found of active life in which flax is not employed? In what production of the earth are there greater marvels than this?" —Pliny 100 A.D.