

Saskatoon\_Serviceberry\_Shadbush\_Juneberry\_1993.txt  
SASKATOON RESEARCH

LATIN NAME: *Amelanchier alnifolia* (Nutt.) Nutt (342-599):

- 1973 Hitchcock & Arthur Cronquist, Flora of the Pacific Northwest, 208. "5 poorly defined varieties (287-208): Var. *pumila* (Nutt.) Nels.; Var. *humptulipensis* (Jones) Hitchc.; Var. *alnifolia*; Var. *semiintegrifolia* (Hook.) Hitchc.; Var. *cusickii* (Fern.) Hitchc.; Var. *utahensis* Koehne." (287-208).

OTHER LATIN NAMES: *Aronia alnifolia* Nutt.

COMMON NAMES: Saskatoon, Serviceberry, Shadbush, Juneberry (157-18); Saskatoon, Western Serviceberry (287-208); Grape-pear, Shad, Sweet Pear (394-44); Shadblow, Sarviceberry (376-229); Sugar Pear (168-39); Sarvis (28-240); Sugar Plum, Sugar Pear, Currant Tree, Shadberry, Downy Serviceberry, (201-215); May Cherry (207-217); Petites Poires (French Canadian); Gyan (Gitksan, 133-66); Gyem (Coast Tsimshian, 243-31); Gyam (Gitksan, 242-137), Gam (Berry, Gitksan, 358-40), sk'an gam (Bush, Gitksan, 358-40); k'wala'stam (Chehalis, berries), tcetci'ntc (Klallam), s'tcl'tsen (Lummi), steitcsan (Samish, name of wood), qwila'stap (Skagit), k!ola'stabats (Snohomish), qula'stabats (Swinomish, name of wood) (46-38); stsakwm (Lillooet, all varieties, 148-63); gaan-xawlaa (Haida [S], 'sweet berry'), gaan-haawlaa (Haida [M], 'Sweet berry', 148-59); K'enmai or Mai dunulhgus (Carrier, 280-75), K'en (Carrier, whole plant, 251-327); Guzigwa'kominaga'wunj (Chippewa, 211-298); Sq'sk (Nuxalk, 331-31); ga wAq'E (Tlingit, 296-201); ixp'a7ems (Plant, Southern Kwakiutl) & ixp'a7a ("sweet" fruit, Southern Kwakiutl, 150-288); Little Pear, Medlars, Indian Pear (369-166); La Poire, Bois de Fleche (Voyagers, 369-167); Misaskwatomin or Misass-ku-tu-mina (Cree dialect of Algonquian, 369-167); Pigeon-berry (305-114); Tche-ki-eh (Dog-ribs, 305-115); Snowy Mispilus (British, 244-264); Siwash Berry (131-Saskatoon);

CLASSIFICATION:

CLASS: Angiospermae (118-10)

SUBCLASS: Dicotyledoneae (118-10)

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SUPERORDER: Rosidae (118-14)

ORDER: Rosales (118-14)

- Three families with 115 genera and 3,200 species distributed in Africa, Northern Hemisphere, and Neotropics.

- (1) Family Rosaceae: About 100 genera and 3,000 species.
- (2) Family Neuradaceae: Three genera with 10 species in Africa and India. northwest
- (3) Family Chrysobalanaceae: 12 Genera and 300 species, pantropical but in the Amazon region of South America. (EB 15-1153) mostly

FAMILY: Rosaceae (Rose Family) (118-14)

- (1) Subfamily Spiraeoideae: 17 genera in South America, Mexico, North Siberia, Asia, and Malaysia. Americam,
- (2) Subfamily Rosoideae: About 34 genera and 2,000 species, in most to subarctic areas of the world. temperate
- (3) Subfamily Maloideae: About 14 genera and 600 species in temperate Asia, Indies, Mexico and Central America, and in North America. East
- (4) Subfamily Prunoideae: Three genera with about 100 species, mostly in Temperate Zone, especially in east Asia; also in the Old World tropics. (EB 15-1153) the North

- Most of the important bush and tree fruits of temperate regions fall within the Rosaceae. (118-144).

SUB-FAMILY: Maloideae (118-144).

- Basic Chromosome Number 17 (118-144).
- Carpels two to five, usually fused with the inner wall of the concave receptacle which together with the calyx enlarges to enclose the fruits as a pome (118-144).

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- Some botanists regard it as worthy of family status by itself: the Malaceae. (118-144.

TRIBE:

SPECIES: *Amelanchier*

- There is no agreement on the number of species, their names etc. as they tend to blend into one another. (369-166)

- Whether there are few or many species depends upon the botanist consulted. The species are quite variable and some apparently hybridize. (28-240)

- 1951 Martin, Zim & Nelson, American Wildlife & Plants, 323. "The serviceberries are primarily North American trees and shrubs. Four or five species are native in the East and 15 to 20 in the west." (336-323)

- 1952 C.P. Lyons, Trees, Shrubs, & Flowers, 82. "Three species are recognized in B.C.: *A. alnifolia* and *A. cusickii* are east of the Cascades, the latter being the abundant species in the Dry Interior and the former having a more eastern and northern range. They have a smooth, bluish-black fruit; while *A. floridana*, the Coastal species has a blackish fruit with bloom." (3-82)

- 1969 R.C. Hosie, Native Trees of Canada, 234. "This is a genus of shrubs and small trees, many of which are not clearly defined. Of about 24 recognized species, 18 are found in North America, with approximately 13 species having ranges that extend into Canada; every province has at least one species of serviceberry. The identification of the different species is difficult owing to the uncertainty of separating many closely related groups." (39-234)

- 1973 Alan Hall, The Wild Food Trailguide, 109. "...represented in North America by 19 species, all bearing palatable fruit." (79-109)

- 1979 Nancy J. Turner, Plants In British Columbia Indian Technology, 230. "Botanists distinguish three varieties within the Province - var. *alnifolia*, var. *semintegritifolia* (Hook.)

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C.L. Hitchc., and var. *cusickii* (Fern.) C.L. Hitchc., while Indian peoples delineate up to eight different types. Further taxonomic research on this highly complex species may reveal the native peoples to be more accurate in their designation than botanist have been." (137-230)

- 1982 Elias & Dykeman, Edible Wild Plants, 207. "There are about 25 species of serviceberries native to North America, Europe, Northern Africa, and Asia.
- 1983 Steven A. Krause, In Search of The Wild Dewberry, 54. "There are about eight species east of the Great Plains, and seven species in the West, ranging northward to Alaska." (301-54)

SOME SIMULAR SPECIES:

(1) *Amelanchier canadensis* (L.) Medic.: Common Name: Saskatoon, Service Berry, Shadbush, Little Pear, Juneberry, Medlars, Indian Pear (369-166); La Poire, Bois de Fleche (Voyagers, 369-167); Misaskwatomin (Cree dialect of Algonquian, 369-167); Snowy Mispilus (British, 244-264); A tree to 8 meter or a bushy shrub usually in clumps. The 5-15 mm stalk bearing the flowers is erect. The alternate leaves have fine teeth around their edges, they are half grown and white wooly when the flowers open. Later they become almost smooth and green when full grown. This is an early flowering variety with conspicuous flowers. The fruit is smooth, dark purple to black and sweet. A few centimeters in size that contains 10 cells each with one seed. Weigand noticed that hybrids were abundant in areas where recent disturbances such as fires or clearings had occurred. N.S., P.E.I., N.B., Que., Ont., s. to Ga. and Miss. in low ground, swamps and thickets. (369-166); North America & eastern Asia. This bush or small tree, according to the variety, is a native of the northern portion of America and eastern Asia. Gray describes five forms. (394-44);

(2) *Amelanchier floridana* Lindl. (Pacific Serviceberry, 342-599): Other Latin Name: *Amelanchier Gormani* Greene (342-599), *A. ephemerotricha*, *A. oxyodon*, *A. parvifolia*, *A. alnifolia* Nutt var. *semintegritifolia* (Hook.) Hitchc. (287-208); Similar to *A. alnifolia*, but with leaves longer than broad, thin; calyx glabrous or only slightly pubescent. Plant often treelike. Moist woods, open places. Common var. in and west of Cascades, south Alaska to California, occasionally East of Cascades in Southern B.C., Northern Wyoming, Northern Idaho, and Montana (287-208). Scattered in Southeastern Alaska, Gulf

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of Alaska coast and throughout the Alaska Peninsula (285-37).

(3) *Amelanchier ovalis* Med. (Service-berry or Snowy Mespilus, 70-104):  
SYN: *Amelanchier vulgaris* Moench, A. *rotundifolia* DUM. (*Amelanchier*, 394-45, 70-104): A slender shrub with upright branches reaching 1-3 m in height. The stem is covered with blackish bark, the shoots are slender and reddish brown, the buds are violet-red and narrowly conical, terminating in a point. Emerging shoots are white tomentose. The whitish flowers, 2.5 cm in diameter, appear at the beginning of May together with the leaves. The edible fruits with their juicy pulp ripen in August, and are eaten by birds. Inside are 5-10 flat, sickle-shaped seeds. The shrub often produces root suckers. It is widespread in southern and central Europe, its range extending eastward to Asia Minor and the Caucasus. In central Europe it is found in the mountains in limestone areas between 900 and 1500 m, and occurs at lower elevations farther north, e.g. in the Rhineland, where it grows in oak stands. It is a light-loving species and stands up well to long dry spells (70-104). Mountains of Europe and adjoining portions of Asia. This species has long been cultivated in England, where its fruit, though not highly palatable, is eatable. It is valued more for its flowers than its fruit." (394-45)

PLANT DESCRIPTION:

GENERAL: Low shrub with reddish-brown branches; (342-599); Plate spreading to erect, 015-10 m (287-208); Look like small trees, growing up to 1.8 m (6 ft) tall and often forming thickets. Their bark is smooth and grey to dark brown in colour (305-114); Shrubs or small trees to 14 feet tall (376-229); The trunk bark is usually tight and rather dark, with low vertical twisting ridges (28-240); Shrubs or small trees up to 7 m. tall. Stems smooth, bark dark grey to reddish brown; twigs commonly silky pubescent at first, later glabrate (35-17); A highly variable, deciduous shrub, 1-7 m (3-23 ft) high, with smooth, reddish to grey bark (137-230); A shrub or small bushy tree, 1 to 8 m tall, often spreading by stolons and forming dense colonies. The reddish-brown branches become grey with age (344-12); Stems are reddish to grey, smooth to slightly rough (206-82); Twigs: Slender, green and smooth or pubescent, later

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becoming grayish brown and glabrous. BARK: Thin, light brown and tinged with red, smooth or shallowly fissured. (68-147); Twigs (of *A. arborea* [Michx. f.] Fern.) are very fine, reddish-brown, with a pith which is 5-sided in cross section (173-80);

LEAVES: leaves coriaceous, rounded about as broad as long, sharply serrated in the apex, glabrous or sparsely pubescent; (342-599); Leaves glabrate or sparsely sericeous on lower surface; (287-208); Unarmed trees or shrubs with alternate, deciduous, simple leaves and linear, quickly deciduous stips. (287-208); The oval or elliptical leaves are serrated, at least towards the tops (305-114); Leaves oval to nearly round with toothed margins (376-229); Typical round leaf notched on top (3-82); Leaves simple, deciduous, alternate, petioled, pinnately veined, usually serrate, sometimes entire; stipules, caducous, linear, free (35-17); Leaves petioled, blades firm, oval or more often suborbicular, cuneate or rounded to subcordate, rounded at tip, margins wholly or in part sharply serrate, glabrous to sparsely or copiously pubescent at least beneath (35-17); Numerous round to oval-shaped leaves. Bluish-green and usually sharply toothed around the top half (137-230); 3/4-1 1/2" (2-3.8 cm) long, oval, usually with teeth on edges, hairless or sparsely-haired when old. (113-719); The oval leaves are 2 to 5 cm long, just a little longer than broad, with margins coarsely toothed on the outer half (344-12); The simple leaves are petioled and have teeth on only the outer half, although older leaves may develop teeth well down the margins. The young leaves are toothed only along the extreme outer end (36-290); 1-2 small glands at the leaf base (45-67); Change from green to a beautiful rusty red in autumn (204-34); The leaves turn red, orange and yellow in the fall (93-96); Alternate, or grouped in 2's or 3's, stalked, light green, strongly tinged with red when young. Surface: Smooth. (when new, the leaves and buds are surrounded by pinkish-grey "wool", but the leaf itself is smooth.) Veins: branching. (206-82); 1 1/4" - 2" long, oblong, broadly ovate, orbicular or ovate-elliptical; dark green and glabrous above, paler and smooth or minutely pubescent below; serrated along the upper 1/4 - 2/3 of the margin, entire below; apex round; base round to subcordate; petiole about 1/2" long (68-147); The leaf-scar is narrowly crescentic, with 3 unusually large bundle-scars. Usually two ridges run

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longitudionally from either side of the leaf-scar (173-80);

BUDS: The buds are different from those of other plants in being pink to reddish, slender, with scales that are dark-tipped and usually somewhat twisted. (28-240); Conspicuous, usually much-elongated, cylindrical buds. These, except for the terminal buds, are closely pressed against the twig. The scars left by the fallen leaves show three large bundle-scars, and on most species, a ridge extends down the twig for a short distance on each side of the leaf-scar.

FLOWERS: Sepals triangular, acute, densely wooly; petals white, oblanceolate; (342-599); Petals mostly 10-20 (5-25) mm (287-208); Flowers complete, racemose, often more or less showy; calyx more or less camp, adnate basally to ovary and with free, plus or minus flared hypan, lobes 5, lanceolate, persistent; petals 5, white (pink); stamens mostly 12-20, inserted with petals at top of the hypan; pistil 2-5 carpillary; ovary 2-5 celled, inferior, styles mostly 5 (4), (287-208); Five-petalled white flowers appear in drooping bunches early in the summer, often preceding the leaves (305-114); Flowers in clusters longer than broad; petals white, rather narrow about 1/4 to 3/8 inch long (376-229); The fragrant clusters of white blossoms are very abundant and dot the bush from top to bottom during April and May (3-82); Flowers perfect, regular, in small terminal racemes on the current growth. Pedicels bracteate at base, often with a second more median bract. Hypanthium urceolate or campanulate, somewhat flared, more or less adnate to the carpels, bearing internally a nectariferous disk. Calyx 5-lobed, lobes triangular to lanceolate, persistent. Petals 5, white (rarely pink), oblanceolate to narrowly oval, showy. Stamens mostly 10-20, short, inserted on the rim of the calyx; filaments subulate, somewhat persistent. Carpels 2-5, more or less united to form an inferior ovary. (35-17); Inflorescence a short, leafy raceme. Flowers often showy, on slender ascending pedicels. Sepals various as to pubescence but frequently quite pubescent within the hypanthium; lobes acute, spreading to reflexed. Petals usually 10-20 mm long, linear to oblanceolate or even oval. Stamens about 20. Styles usually 5, sometimes 4; ovary almost fully inferior; inside of hypanthium glabrous to densely pubescent

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(38-19); The flowers, which bloom in April and May, are white and showy, with five elongated petals and crowded in drooping to erect clusters. Especially in the Interior, the flowers often cover the bushes (137-230); 1-2" (2.5-5 cm) wide; petals 5, growing from the rim of a little cup; stamens 20; styles 5. (113-719); The five petals are linear to oblong and are slightly twisted (344-12); Petals: 5, white, long and narrow, pointed-tipped. Calyx: 5-lobed, sepals are pale green, triangular, showing between the petals. Stamens: Numerous, rather short, brown-tipped. Pistil: Formed by 5 united carpels, with 5 styles. Bracts: Small, golden-brown. (206-82); White, small, showy, numerous in dense clusters, 3/8-1/2 inch across, 5 sepals, 5 white petals, about 20 stamens, 1 ovary inferior, 5 styles (256-146); A central pistil which appears indistinctly five-celled, five green sepals, five elongated petals (39-234);

FRUITS/SEEDS: Fruit globose, purplish-black when ripe, glabrous, juicy; Fruit glabrous, Fruit more or less fleshly, reddish to purple, pomaceous; seeds 2 per carpel, separated by false partitions (287-208); When ripe, saskatoon berries are purplish-black, juicy and sweet, with little crown-like tufts on the ends (305-114); fruit apple-like, but only 3/8 to 5/8 inch in diameter, purple-red to black when ripe (376-230). The pulp is sweet and surrounds ten large seeds (168-39); Fruit a pome. (35-17); Fruit glabrous, more or less glaucous, purple to nearly black, juicy, edible. (35-19); The berries, when ripe, are reddish-purple to dark blue, and often seedy. The size, texture and taste vary considerably from plant to plant (137-230); Berry about 1/2 " (1.3 cm) long, purplish, juicy, round. (113-719); The saskatoon differs from other members of the genus in the fact that its fruit and ovary are separated into chambers, each of which holds a single seed. The filiform prolongation of the plant ovary bearing a stigma at its top, however, generally numbers five. (201-217); The end of each berry has 5 tooth-like projections similar to those on a blueberry. Juneberries have 10 large, soft seeds (79-109); Fruits may resemble berries, but they are actually small pomes, the same type of fruit as the commonplace apple. Each of these pomes is composed of ten compartments housing one seed.

HABITAT: Found in moist woods. Open woods to canyons and hillsides, from near

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sea level to subalpine (287-208); Stream banks, moist hillsides, in woods or on open slopes (376-230); Exposed places at all altitudes (35-19); Dry woods and open hillsides, in well-drained soil (137-230); Slopes, canyons, and open coniferous woods from low to high elevations (113-719); Occurs on dry rocky soils, or on moist deep soils in the sun or under light shade (68-147)

RANGE: Described from "Fort Mandan to the Northern Andes".(342-599); South Alaska to California, east to Alberta, Dakotas, Nebraska, New Mexico, and Arizona (287-208); From Nebraska west to Oregon and western Canada. Locally abundant in the Rocky Mountains (376-230). Alaska to California, east to Alberta, North Dakota, South Dakota, Nebraska, Colorado, New Mexico, and Arizona; general throughout. (35-19); Common and widespread throughout the Province, but most prolific in the dry woods and open slopes of the southern interior (137-230); Widespread and abundant throughout North America. West of the Cascades it is limited to elevations below about 200 feet. It becomes less common in the northern limits of its range, but is prolific in the drier interior regions (36-290); Central Alaska southeast to Manitoba, W. Minnesota, and Colorado and west to N. California; local east to SE. Quebec; to 6000' (1829 m.); Yukon to southern Oregon, eastward to western Ontario, Minnesota, and north-eastern Nebraska. Elevational range: Near sea level to 9000 feet (Calif) (68-147);

PLANT USES

CONSTITUENTS:

- 1979 Turner & Szczawinski, Edible Wild Fruits and Nuts of Canada, 137. "Saskatoon berries contain unusually high concentrations of iron and copper. The amount of iron is three times that contained in dried prunes and four times that in raisins." (114-137)

FOOD USES:

EUROPEAN USES:

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- Great development made with native Saskatoons and that "smoky" - a selection made in 1944 at Beaverlodge, Alberta, had terrific commercial potential (at an agriculture Canada Research Station). Part of Alberta crop of 'Smoky" is processed into syrup every year to be used in everything from jams and ice-cream to wine and yogurt. The saskatoon is impressively hardy, surviving winter temperatures as low as minus 75 to minus 80 degrees F and fruity even during a short season.

- 1967 H.D. Harrington, Edible Native Plants of the Rocky Mountains, 231. "The different kinds of serviceberries all have edible fruit, but they vary in size of the product and the relative amount of pulp present. Even in the same species one can notice differences among races or even between individual trees. The amount of rainfall for the season or the moisture in the site where the plant grows affects this fruit size...They can be eaten fresh, the only objectionable feature being the large seeds which may be bad tasting to some, but are said by some people to add to the flavor. The fruit can be dried and used as one would use raisins. They tend to dry on the plant and late in the season can be picked, eaten raw, or cooking into a puree or jam. Cooking makes the skins and seeds more palatable after this drying." (376-231)

- 1967 H.D. Harrington, Edible Native Plants of the Rocky Mountains, 231. "The fresh fruit can be used in any of the various ways that any fleshy fruit can be utilized. It makes good pies and may be canned for this purpose. Mrs. John May made an excellant jelly using the recipe on the package of Certo or Sure-Jell, substituting the word "serviceberry" for "sour cherry," and she has sold it commercially in this area. The color is a rich dark purple and has the consistency of any other jelly. The taste to us was like apple jelly, but milder and blander. For this reason some recipes for serviceberry jellies and jams suggest adding the juice of something more tart, like chokecherries, apples, plums, or lemons." (376-231)

- 1975 Russ Mohney, Why Wild Edibles?, 291. "Take some care in picking these berries because they sometimes become pretty wormy. The birds and animals

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aren't too fussy about that, but you might be. If a tree is wormy, chances are all the fruits are affected, but other nearby trees may be completely free of the pests and you can collect the berries without much difficulty." (36-291)

- 1979 Alyson Hart Knap, *Wilderness Harvest*, 135. "The serviceberries are not highly acidic, hence their flavor varies between bland and slightly sweet. They are not terribly appetizing when raw, but are excellant dried and quite good once stewed with sugar and lemon juice." (104-135)

- 1984 Kim Williams, *Eating Wild Plants*, 74. "You can make pie or pudding or fruit sauce, but don't expect serviceberry to produce your favorite dessert. The berries don't cook apart and they have large seeds. Also, there is no acid so there is not tang. You have to add lemon juice, rhubarb, apple or wild plum....You can make jam or jelly by adding acid and pectin, in addition to sugar, in order to get a proper jell. Jelly is the better product because the jam is seedy unless you pass the cooked fruit through a sieve....You can also can the fruit or use it to make wine." (341-74)

NATIVE USES OF FOODS:

- 1624 Sagard HURON 329. "There are pears, certain small fruits a little larger than peas, of a blackish color and soft, very good to eat by the spoonful like blueberries, which grow on small trees, which have leaves similar to the wild pear trees here, (probably *Crataegus punctata*, hawthorn) but their fruit is entirely different." (369-167)

- 1663 Boucher Quebec transl. 52. "There are a quantity of little fruits whose names I know not, and which are not very special, but they are eaten when others are lacking." (369-167)

- 1698 Hennepin Lake St. Clair 109. "The Forest are chiefly made up of Walnut-trees, Chesnut-trees, Plum-trees and Pear-trees, loaded with their own Fruit."

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- 1789 Mackenzie Voyages 107. "There are plenty of berries, which my people called poires; they are of a purple hue, somewhat bigger than a pea, and of a luscious taste." (369-167)
- 1804 Grand SAUTEUX 309. "There is a fine fruit not larger than a currant, tasting much like a pear and growing on a small tree about the size of a willow." (369-167)
- 1818 Description P.E.I. "A fruit in this Island, called the Indian pear, is very delicious." (369-167)
- 1820 Harmon Journal 81. "Different kinds of berries are not ripe, such as strawberries, raspberries, and what the Canadians call paires, which the Natives denominate Misasquito-minuck." (369-167)
- 1820 Franklin Journey 88. "Under the name of meesasscootoomeena it is the favorite dish at most Indian feasts, and mixed with pemmican, it renders that greasy food actually palatable." (369-167)
- 1823 John Richardson, Franklin: Narrative of a Journey.. "This shrub is common as far north as lat. 62'. It abounds on the sandy plains of the Saskatchewan...Its berries, about the size of a pea, are the finest fruit in the country, and are used by the Crees...both in a fresh and dried state. They form a pleasant addition to pemmican, and make excellant puddings, very little inferior to plum-puddings." (131-Saskatoon)
- 1830 Trans. Lit. & Hist. Soc. Quebec 111 126. "In the country parts this small fruit is dignified with the name of poire, more from its fine flavor, it is presumed, than from any resemblance to pears." (369-167)
- 1852 Sir John Richardson, Arctic Searching Expedition: A Journal of a Boat-voyage through Rupert's Land and the Arctic Sea. "The black fruit is about the size of a pea, is well tasted, dries well, and in that state is mixed with pemican, or used for making puddings: for which purpose it nearly equals

the Zante currant." (305-115)

- 1859 The Earl of Southesk, Saskatchewan and the Rocky Mountains. "Had 'BERRY-PEMMICAN' at supper. That is to say, the ordinary buffalo pemmican, with Saskootoom berries sprinkled through it at the time of making, - which acts as currant jelly does with venison, correcting the greasiness of the fat by a slightly acid sweetness. Sometimes wild cherries are used instead of the Meesasskootoom-meena. Berry-pemmican is usually the best of its kind, but poor is the best. Take scrapings from the driest outside corner of a very stale piece of cold roast beef, add to its lumps of tallowy rancid fat, then garnish all with long human hairs (on which string pieces, like beads, upon a necklace), and short hairs of oxen, or dogs, or both, - and you have a fair imitation of common pemmican, though I should rather suppose it to be less nasty.

Pemmican is most durable when uncooked. My men used to fry it with grease, sometimes stirring-in flour, and making a flabby mess, called 'rubaboo', which I found almost uneatable. Carefully-made pemmican, such as that flavoured with the Saskoo-toom berries, or some that we got from the mission at St. Ann, or the sheep-pemmican given us by the Rocky Mountain hunters, is nearly good, - but, in two senses, a little of it goes a long way." (131-Saskatoon)

- 1863 Milton & Cheadle, The North-West Passage by Land. "The Indians brought in a plentiful supply of the poire, wild pear, or service berry, which we purchased for some needles and thread. This fruit grows on a shrub...with leaves resembling that of a pear-tree, but smaller, and is said by the Hudson's Bay people that wherever it flourishes wheat will also grow to perfection. The berry is about the size of a black currant, pear-shaped, and of delicious sweetness and flavour. They are much used by the Indians on both sides the mountains, who dry them for winter use." (1-236)

- 1871 Edward Palmer, Food Products of the North American Indians. "Amelanchier canadensis; berries eaten fresh and dried, boiled in broth of fat meat for feasts. "In preparing the fruit for future use a favorite plan is to

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take a tub holding 20 or 30 gallons, in the bottom of which bark of spruce is placed; upon this bark a quantity of berries is laid; stones nearly red hot are next laid on; then berries then stones until the tub is filled. It is allowed to remain untouched for 6 hours when the fruit will be thoroughly cooked. It is then out, crushed between the hands, spread on splinters of wood tied together, over a slow fire, while drying the juice which was pressed out in cooking in the tub is rubbed over berries. After 2 or 3 days drying the berries will keep a long time. Very palatable, more so when a few huckleberries (are) mixed with them." (369-167)

- 1910 A. G. Morice, The Great Dene Race, *Anthropos* 5. "Carrier: And first as to their berries. None can be compared to the fruit of the *Amelanchier alnifolia*, as regards economic importance. This is also true that though it has in their dialect a specific appellation, they generally call it only 'mak', the fruit. Eaten fresh, it is sweet and sugary, but for stomachs it proves rather heavy." (305-114)

- 1919 U.P. Hedrick, *Sturtevant's Edible Plants of the World*, 44. "A. *canadensis* Medic.: The berries are eaten in large quantities, fresh or dried, by the Indians of the Northwest. The fruit is called by the French in Canada 'poires', in Maine 'Sweet Pear', and from early times has been dried and eaten by the natives. It is called grape-pear in places, and its fruit is of a purplish color and an agreeable, sweet taste. The pea-sized fruit is said to be the finest fruit of the Saskatchewan country and to be used by the Cree Indians both fresh and dried." (394-45).

- 1926-7 Densmore CHIPPEWA 321. "*Amelanchier canadensis*, Shadbush. "These are called 'Juneberries' by the Chippewa and are found abundantly in their country. They are considered the simplest form of refreshment. "Take some Juneberries with you," is a common saying among the Chippewa. A certain song contains the words "Juneberries I would take to eat on my journey if I were a son-in-law."" (369-167, 211-321)

- 1923 H. Smith MENOMINI 71. "The Juneberry or service-berry is a favorite

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food of the Menomini, seemingly as important as blueberries. It is gathered and dried for winter use the same as blueberries." (369-168)

- 1934 Leslie L. Haskin, Wild Flowers of the Pacific Coast, 165. "Lewis and Clark speak of a kind of native bread made of these berries mixed with the pounded seeds of balsam-root and lambsquarter." (335-165)

- 1945 Erna Gunther, Ethnobotany of Western Washington, 38. "The Swinomish eat the fruit fresh and dry it for winter use, as do the Chehalis, who use the dried berries as seasoning in soup or with meats. The Skagit eat the berries fresh and state that the Yakima dry them. The Lummi dry the berries and boil them in winter with dog salmon at feasts. The Snohomish, Klallam, and Lower Chinook also relish the fruit." (46-38)

- 1967 H. D. Harrington, Edible Native Plants of the Rocky Mountains, 232. "Colyer (56), stated that the Ute Indians preferred to use the fruit of some serviceberries before it turned red or purple." (376-232)

- 1970 Donald R. Kirk, Wild Edible Plants, 99. "Western Indians often dried them and pounded them together in loaves which weighed from 10 to 15 pounds. The loaves will remain sweet and may be eaten after softening a piece in water, or after placing pieces of the loaves in soups or stews." (5-99)

- 1973 Carrier Linquistic Committee, Plants of Carrier Country, 75. "Saskatoon is the one the old-timers dried for winter. The way they dried them was by braiding the branches into a mat, and placing the berries on top of a layer of leaves. As a fire burned underneath them, they kept pouring water over them. This they would eat in the winter. Then too, some of them would fry the dried berries, knead them and put them on the thimbleberry leaf to let it dry. In the winter they would eat this with bear grease." (280-75)

- 1975 Russ Mohney, Why Wild Edibles, 290. "It was made into large dried cakes and transported along the trails of the nomadic tribes of the central plains. The cakes could be soaked in water, after which they regained most of

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their fresh weight and flavor. The dried fruits were often added to soups and stews." (36-290)

- 1975 Nancy J. Turner, Food Plants of British Columbia Indians, Part 2, Coastal Peoples, 194. "Although Saskatoon berries never attained the same importance to the Coastal Indians as they did for Interior peoples, they were eaten in fairly large quantities by virtually every coastal group, and were highly regarded by all. In fact, both Kwakiutl and Haida names for the berries mean 'sweat-berry'; as an old Haida man said, "That's the sweetest kind of berry you could ever get." Most groups dried them in cakes, like salal berries. Sometimes they were mixed with other less-palatable kinds of berries." (44-194)

- 1977 R.G.H. Cormack, Wildflowers of Alberta, 146. "Cooked in huge, spruce-bark tubs, between layers of red hot stones, the berries were cooled, broken up by hand, sprinkled with the juices obtained in cooking and were finally dried over a slow fire. The berries with their sweet, nutty flavour are just as delectable today in preserves and pies as they were in the days of the Indians and early settlers." (256-146)

- 1977 Sound Heritage, Lillooet Stories, Volume VI, Number 1, 74. "Often saskatoon berries were mixed in with the si-ZAK (cooked loaves of black tree "moss"). These "loaves" were then cut up and stored away in a dry place. When they were to be eaten, they first had to be soaked overnight in water, to soften them." (232-74)

- 1978 Nancy J. Turner, Food Plants of British Columbia Indians, Part 2, Interior Peoples, 181. "Of all the berries and fruits eaten by the Interior Indians of B.C., this was the most popular and most widely used, especially in the southern and central Interior. Among the northern groups, such as the Beaver and Slave, Saskatoons were often the only type of vegetable food available in any quantity." (103-181)

- 1978 Nancy J. Turner, Food Plants of British Columbia Indians, Part 2,

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Interior Peoples, 182. "Various methods of drying Saskatoons were used, both for different varieties of berries and in different cultural areas. In general, they were spread on mats and dried individually, like raisins, or mashed up, boiled in baskets with hot rocks, and spread on grass, mats, or rocks to dry in cakes. Sometimes they were placed on racks over a fire, or dried in the sun, although slow drying in shaded conditions was considered better. Often the juice was collected separately and added to the drying berry cakes a little at a time, or saved and used to "marinate" other foods, such as "black tree lichen," bitter-roots, or even dried salmon. The dried cakes were used in numerous ways. Chunks could be broken off and fed to children as a snack or confection. They could be soaked and boiled with bitter-root or salmon eggs, cooked with tiger lily bulbs, deer meat, or bear grease, mashed with other berries such as those of red-osier dogwood (*Cornus stolonifera*), or they could simply be rehydrated and eaten alone as a dessert. Individual berries were cooked in soups and stews, and used as sweeteners in such dishes as "Indian ice-cream," made from soapberries. Okanagan babies were often fed Saskatoon juice after being weaned. Dried Saskatoons were a common trading item, especially between the Interior and the Coast. Today, Saskatoons are still extremely popular. They are eaten fresh with milk and sugar, cooked in puddings, pies, and cakes, and made into jams and preserves. Perhaps this most versatile of fruits will one day be cultivated on a commercial basis, like blueberries and cranberries." (103-182)

- 1980 Gitksan Elders, Gathering What the Great Nature Provided, 66.  
"Saskatoons (gyam), or serviceberries, grow everywhere, like the dandelions and thistles that the traders brought in. When drying saskatoons on the racks, some cooks add an extra layer of fresh crushed berries towards the end of the drying period. They claim that this prevents the berries from cracking when they are rolled. Others add the sticky substance that results from mashing bunchberries (go gyp). Saskatoons and soapberries were dried in bite-size chunks for which we have the name 'maa'y tsa'. They are the only varieties of berry used for this food. Maa'y tsa was usually eaten without being softened in water - "just a nice, chewy mouthful." Saskatoons are also sun dried, "spread out on cedar mats which were shaken every now and then so that the

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berries dried all round." When dried, they resemble a tiny raisin." (133-66)

- 1981 Robert Hendrickson, The Berry Book, 218. "The Ute Indians, also called the Grasshopper Indians, actually made a "grasshopper fruitcake" with dried pulverized grasshoppers and juneberries." (207-218)

- 1984 Nuxalk Food & Nutrition Program, Nuxalk Food & Nutrition Handbook, 31. "Saskatoon berries are harvested from the end of July to the first two weeks of September, and they are ready for picking when the colour is a deep purple/red. They are found on open hillsides and in dry forests. They are easy to pick. They are somewhat dry in texture, but they have a good flavour. In the old days, the berries were dried and then stored in cedar boxes. They were eaten with ooligan grease, after they had been soaked in a little water to soften them. Today, Saskatoons are made into dry jam or frozen in bags for fruit salad. They are mixed with other fruit in dry jam, such as oranges and peaches." (331-31)

- 1985 Health & Welfare Canada, Native Foods and Nutrition, 71. "Saskatoons..fresh, dried, used in pemmican, cooked with bulbs and roots and with deer or bear grease in soups and stews; used as a sweetener; jelly." (333-71)

- 1986 Scotter & Flygare, Wildflowers of the Canadian Rockies, 12. "They (Saskatoon Berries) were regarded as the most important vegetable food of the Blackfoot Indians, being used fresh in soups, stews, and pemmican, and being dried for winter. The dried berries were a common article of trade and the wood was prized for making arrows. Today the delicious berries are renowned for making excellent pies and preserves." (344-12)

EUROPEAN USES OF FOODS:

- 1801 Alexander Mackenzie, Voyages from Montreal on the River St. Laurence, Through the Continent of North America to the Frozen and Pacific Oceans In the Years 1789 and 1793, with a Preliminary Account of the Rise,

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Progress and Present State of the Fur Trade of that Country. "There were plenty of berries, which my people called 'poires': they are of a purple hue, somewhat bigger than a pea, and of a luscious taste; there were also gooseberries, and a few strawberries." (305-115)

- 1840 Grosse Quebec 148. "The wild Service Tree...its profuse corymbs of white blossoms give it the appearance of a large snowball. Its fruit is about the size of a cherry, but more resembling a medlar in form: it ripens in August. The tree is not common with us." (369-167)

- 1843 John Henry Lefroy, In Search of the Magnetic North., 62. "The poire is mixed up in large quantities with a fine pemmican for the use of the officers and this makes what is called berry pemmican." (369-167)

- 1962 Euell Gibbons, Stalking The Wild Asparagus, 116. "They are delicious as a Stewed Fruit or Sauce, served hot or cold. Add 1 cup of sugar to 3 cups of berries and simmer for 20 minutes." (2-116)

- 1962 Euell Gibbons, Stalking The Wild Asparagus, 116. "The canning or freezing of Juneberries is no trouble at all. Pack the washed berries into jars, cover with a sirup made of 3 parts water to 1 part sugar, seal the jars and set in the quick-freeze section of your freezer. For canned berries, process for thirty minutes in boiling water, check the seal and store away. The frozen berries make an excellent dessert or breakfast fruit; just thaw and serve. The canned berries make pies, muffins or stewed fruit that is little if at all inferior to those from fresh berries." (2-116)

- 1976 Francis H. Elmore, Shrubs & Trees of the Southwest Uplands, 136. "In the early days the berries were a favorite food of many Indian tribes who ate them fresh or dried them for later use. They also ground the dried fruits and mixed them with jerked venison or buffalo meat and melted fat to make pemmican, an important concentrated provision for long journeys or for winter food. Explorers, hunters and soldiers adapted the formula by using raisins, beef, suet and sugar. As Army "K rations" its nutritional quality, and

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especially its palatability were often debated." (374-136)

- 1984 Marilyn Walker, Harvesting the Northern Wild, 114. "Saskatoons are rich in iron. They can be made use of in just about any way you can think of for berries - in jams or jellies; in baking, added to pancakes, muffins, or pies; fresh, on cereals or in desserts. As they are not very acidic and can be bland, stew them with lemon juice and sugar. Use them to replace blueberries in any recipe. They can be easily dried or frozen." (305-114)

RECIPES:

PEMMICAN

1 pound of dried moose, buffalo, caribou or beef  
1/2 pound of dried Juneberries  
1 pound of beef fat or animal fat, rendered

Hang the meat in strips, about 1 inch wide and 1 inch thick, on a rack to dry in the sun. Or, if you wish, cut the meat in strips and place overnight in the bake oven on low heat at about 125~F. Pound the meat to a pulp with a wooden mallet on a chopping block. In a large bowl place the pounded meat, the melted fat, and the berries. Stir well. Stuff into plastic casings or into a bag made out of cheesecloth. Hang in a cold place ready to take with you on wilderness trips or simply on your next camping trip. Pemmican makes one of the best concentrated outdoor foods you can take with you. (Berndt Berglund, "Edible Wild Plants", 40)

(1) STEAMED PUDDING: (376-231)

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For each individual serving use 1/4 cup fresh serviceberries, 1/4 cup sliced peaches and 2 teaspoons sugar. Mix and place in the bottom of a large custard cup. Then make a dough, using 1 tablespoon milk. Mix this together and drop on top of fruit mixture. Cover and put in steamer for 50 to 60 minutes.

(1967 H.D. Harrington, Edible Native Plants of the Rocky Mountains)

(2) JUNEBERRY PIE: (168-40, 2-116)

3 Cups of Juneberries	1/2 cups of granulated sugar
2 tablespoons flour	1 tablespoon melted butter

Preheat the oven to 375~F. Pick over the berries, wash, and drain them. Place them in a 2-quart stainless steel saucepan and cover with water. Bring them to the boil, then lower the heat and simmer for 10 minutes. Drain and save the cooking liquid. Mix together the Juneberries, flour, sugar, and melted butter. Pour the mixture into a 9-inch pie plate lined with pastry. Cover with the pie crust, piercing the top with a fork to allow the steam to escape. Place in the oven for 25 minutes. Serve warm with whipped cream.

(1977 Berglund & Bolsby, Edible Wild Plants, 40)

(3) INDIAN JUNEBERRY PUDDING: (168-42)

2 Cups of dried Juneberries	1/2 teaspoon of ginger
1 cup of water	1/2 teaspoon of cinnamon
1/2 teaspoons of salt	1/2 cup of honey
3 tablespoons of butter	2 eggs beaten
1/2 cups of corn meal	1/2 cup of cold cream

Place the Juneberries in a small saucepan, pour the boiling water over the berries, and simmer for 5 minutes. Drain and save the cooking juices. Scald the milk in the top of a double boiler and stir in the salt, the butter, and

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the corn meal. Cook for about 20 minutes until thickened, stirring constantly. Add the berries, while continuing to stir the pudding. If it becomes too thick, add some of the reserved cooking juices.

Remove from the heat and cool slightly. Stir in the ginger, cinnamon, melted honey, and beaten eggs. Grease an 8 X 6-inch deep baking dish, add the mixture and pour the cream over the top. Set the dish in a pan of water and bake at 325°F for 1 1/4 hours. Serve with cold milk or table cream. Serves 4.

(1977 Berglund & Bolsby, Edible Wild Plants, 42)

(4) JUNEBERRY PRESERVES: (168-42)

2 Cups of water	6 cups of Juneberries
4 cups of sugar	3 tablespoons of lemon juice

Bring the water to the boil in a 2-quart stainless steel saucepan, add the sugar a little at a time, lower the heat to simmer, and add the Juneberries and the lemon juice. Simmer for 20 minutes. Pack the hot berries in sterilized pint jars and seal. Process the jars in boiling water for 10 minutes. Makes 6 pint jars.

(1977 Berglund & Bolsby, Edible Wild Plants, 42)

(5) MARDY GALLAGHER'S SASKATOON BERRY PIE: (365-271)

3 cups of saskatoon berries
2 tablespoons of flour
3/4 cup of granulated sugar
2 teaspoons of lemon juice
1 tablespoon of butter
Pastry for 9-inch pie

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1. Pick over saskatoons, wash and drain.
2. Line 9-inch pie plate with pastry.
3. Coat the berries with flour.
4. Alternate layers of sugar and berries in the pie plate, sprinkle lemon juice on top and dot with butter.
5. Cover top with a crust or lattice of pastry.
6. Bake at 400~F. for 10 minutes, reduce heat to 375~F. and continue baking for 25 minutes. Serve warm with whipped cream.

(1967 Eleanor A. Ellis, Northern Cookbook, 271)

(6) SERVICEBERRY KUCHEN: (341-75)

1/2 OR 3/8 Recipe coffee cake dough (yeast type)  
1 cup of serviceberries  
1 cup of milk mixed with 2 tablespoons dried skim milk  
2 eggs  
1/2 cup of brown sugar or 3/8 cup of honey  
A dash of nutmeg  
1/2 cup of finely ground bread crumbs  
1/2 cup of finely chopped walnuts or sunflower seeds (optional)  
3/8 cups of brown sugar

Make coffee cake dough as usual. Roll into a circle to fit into bottom and up sides of a 9-inch layer cake pan. Prick dough with fork to prevent excessive raising. Sprinkle serviceberries on crust. Beat eggs with milk, sugar and nutmeg. Pour over berries. Mix last three ingredients and sprinkle over custard mixture. Bake at 375 degrees for about 35 minutes or until dough is firm and the mixture is cooked to the consistency of a quiche.

(1984 Kim Williams, Eating Wild Plants, 75)

(7) JUNEBERRY MUFFINS: (2-116)

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Juneberries make wonderful Muffins, the cooked seeds imparting a rich almond flavor, but unlike blueberries, the Juneberries should be cooked before being included in the muffins. Just follow the receipe for stewed Juneberries, then drain off the sirup. In a round-bottomed mixing bowl, sift 2 cups of flour with 2 tablespoons of sugar, 1/2 teaspoon of salt, 1 teaspoon of baking powder and 1/2 teaspoon of soda. Stir carefully from the outside of the bowl and mix the berries into the flour. Still stirring gently so as not to crush the berries, mix in a beaten egg, 2 tablespoons of melted butter and 3/4 cup of buttermilk. Stir barely enough to dampen all the ingredients. The mixture will be thick, more like sticky dough than batter. Use a small ice-cream dipper and fill greased muffin tins half full. Bake in a 400~ oven for about 18 minutes.

(1962 Euell Gibbons, Stalking The Wild Asparagus, 116)

#### (8) BERRY SPOON LOAF: (247-152)

3 Cups of sugar	2 tablespoons of butter or margarine
1 1/2 cups of milk	1 cup of chopped nuts
1/2 teaspoons of salt	1 cup of dried serviceberries

Combine sugar, milk, salt and butter in a large saucepan. Bring to a boil and boil until a little of the syrup dropped in a cup of cold water will form a soft ball. Be sure to cook it enough. Stir in the nuts and dried berries. Cook slowly until the mass of candy begins to form a large lump in the pan, stirring constantly to avoid scorching. Wring out a clean tea towel in cold water. Remove the candy to one end of the tea towel, forming a long roll. Roll up in the towel and wrap a dry towel around it. When the candy is set, unwrap it and slice the roll into 1/2-inch-thick pieces. Allow to dry, then store the candy in an airtight container. Variation: If you don't have enough dried serviceberries, add some chopped dates instead.

(1982 Alaska Magazine, Alaska Wild Berry Guide & Cookbook, 152)

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(9) HAM & DRIED SERVICEBERRIES: (247-76)

1 1/2 pounds of center-cut, sliced ham	Pepper
1 cup of dried serviceberries	1 cup of brown sugar
3 medium-sized sweet potatoes or yams	2 cups of scalded milk

Preheat oven to 350~. Place ham in a baking dish and cover with dried serviceberries. Peel the sweet potatoes, cut them lengthwise, and add to the ham and berries. Sprinkle with pepper and brown sugar. Add scalded milk. Cover and bake for 1 hour. Remove the cover and bake for another 30 minutes to brown the potatoes.

(1982 Alaska Magazine, Alaska Wild Berry Guide & Cookbook, 76)

(10) SASKATOON SURPRISE: (114-135)

2 cups of fresh or frozen saskatoon berries
1 cup of orange juice
1/2 cup of vanilla ice cream
1 cup finely cracked ice

Place all ingredients in a blender. Cover and blend until the berries are liquefied and the ice is melted. Serve in frosted glasses on a hot summer day. Serves 2-4.

(1979 Turner & Szczawinski, Edible Wild Fruits and Nuts of Canada, 135)

OTHER RECIPES:

- Berry Oatmeals (247-125)
- Alaska-Style Irish Bread (247-61)
- Pemmican "C" (247-157, 79-13, 37-74, 14-200, 114-136)

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- Berry Layer Muffins (329-48)
- Freezing Saskatoons (329-90)
- Many-Berry Muffins (329-47)
- Saskatoon Bran Muffins (329-49)
- Saskatoon Buckle (329-36)
- Saskatoon Buttermilk Pancakes (329-54)
- Saskatoon Nut Streusel Pie (329-34)
- Saskatoon Orange Cake (329-35)
- Saskatoon Pancakes (329-53)
- Saskatoon Pie (329-22, 405-158, 114-135)
- Saskatoon Rhubarb Pie (329-22)
- Saskatoon Soft-Bottom Pudding (329-83)
- Saskatoon Jelly (279-207, 34-29))
- Serviceberry cupcakes (104-136)
- Saskatoon Preserves (36-29)
- Juneberry Hominy Salad (207-218)
- Serviceberry Flan (227-279)
- Saskatoon-Cranberry Dessert (114-134)
- Pickled Saskatoons (114-136)
- Spiced Saskatoons (114-136)

NOTE: A leaflet of saskatoon recipes is available free of charge from the Print Media Branch, Alberta Agriculture, 7000 - 113 Street, Edmonton, Alberta, T6H-5T6.

MEDICINAL USES:

NATIVE MEDICINAL USES:

- 1926-7 Francis Densmore, *Uses of Plants by the Chippewa Indians, CHIPPEWA* 345. "A decoction made of the root of this combined with roots of cherry and young oak, drunk for dysentery...356. Bark in combination with pin cherry, choke cherry and wild cherry make into a decoction and drunk for female weakness....358. Root steeped and drunk for excessive flowing. This was given

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to a pregnant woman who had been injured, to prevent miscarriage...366. General remedies (Disinfectant) - inner bark - Decoction used as a wash." (369-168, 211-345)

- 1932 Huron H. Smith, Ethnobotany of the OJIBWE, 384. "Smooth Juneberry (*Amelanchier laevis*) according to Charley Burns...the bark was used for medicine, but he did not know what it was to treat. The Pillager Ojibwe...say that the bark is to make a tea for the expectant mother..408. According to John Whitefeather, Flambeau Ojibwe...knew it only as food, although some tribes use the bark as a medicine. Juneberries were also dried for winter use, the Indians often preferring them to blueberries." (369-168)

- 1933 Huron H. Smith, Ethnobotany of the POTAWATOMI, 77. "A. spicata, low juneberry. The Forest Potawatomi use the root bark to make a tonic...The Ojibwe of Lac du Flambeau use the bark for medicine but we do not know for what ailment. The Pillager Ojibwe..say that the bark is used to make a tea for the expectant mother...107. The Forest Potawatomi relish the berries as a fresh food and also dry and can them for winter use. Other Wisconsin tribes are also fond of them." (369-168)

- 1970 Robert A. Bye Jr., The Ethnobotany and Economic Botany of Onondaga County, N.Y., IROQUOIS mss (*Amelanchier canadensis*). "The fruit is used as a blood remedy to treat after pains and hemorrhages of childbirth. The branches were used to make a tea." (369-168)

- 1974 Claudine Melgrave, Indian Herbal Remedies, 14. "Saskatoon Berries (Rosie): Use the whole plant, sticks, leaves and roots. Good remedy for arthritis. They are recommended for eating for general good health." (357-14)

- 1974 Claudine Melgrave, Indian Herbal Remedies, 14. "Saskatoon Berries (Mamie Henry, Lyton, B.C.): Boil branches of Saskatoons. Let stand to cool. Re-heat water later and sit in it for piles." (357-39).

- 1978 Bradford Angier, Field Guide to Medicinal Wild Plants, 217. "A wash

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made by simmering the inner bark of this medicinal was used for eyes sore and blurred from sun as from climbing and hiking, from glare as from canoeing, from dust as from traveling in dry weather, and from snow blindness, which is not blindness at all but rather inflammation caused from too long exposure to the continued shine and glint of ice and snow on insufficiently protected eyes. (Interestingly, snow blindness can be incurred on an overcast day and through the canvas of a tent.)" (201-217)

- 1978 Bradford Angier, Field Guide to Medicinal Wild Plants, 217. "Before they matured, the crushed pomes were used to bind the bowels after the bowels had been weakened by excessive and abnormal discharges. They lost this restringent quality with ripeness." (201-217)

COLLECTING & DRYING:

- 1939 Oliver Perry Medsger, Edible Wild Plants, 37. "The wood is very hard, tough, and elastic. Any tree that is not too large may be bent to the ground without breaking, so that the berries can be gathered from the branches; when released, it will spring back into the natural position." (7-37)

- 1971 Medical Services, Indian Food, 41. "DRIED BERRY CAKES: In the last century, berries were commonly dried in cakes. A rack, like the one used for drying meat, held the drying berry cakes. When the rack was built for drying berries, the lengthwise sticks on the top of the rack were split in half so they were flat on top and about two inches wide and two inches thick. They formed a flat platform on which was placed a layer of timber grass about one-quarter of an inch thick. The berries were cooked in baskets with the addition of a small amount of water. When the berry mixture was soft and juicy it was poured over the timber grass to a depth of one-quarter inch and left to dry. When the first layer was dry another was made on top of it until a berry cake about three inches thick had built up. Sometimes the finished cakes were wrapped in birch bark and stored for winter.

For serving, the berry cake was broken into serving sized chunks and dropped into a basket. A small amount of water was added and when the water

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was absorbed the pieces of berry cake were eaten. They were reported to taste like jam. In coastal areas eulachon grease was added before serving. When sugar became available it was added to the cooked berry juice." (160-41)

- 1978 Nancy J. Turner, Food Plants of British Columbia Indians, Part 2, Interior Peoples, 181. "The berries were harvested from June through August, depending on the variety, the elevation, and the locality. In the Shuswap language, the eighth moon is called "Saskatoons ripen." In some areas, such as at Penticton in Okanagan country and at Big Bar in Shuswap territory, a "first-fruits" ceremony was held to celebrate the beginning of the Saskatoon picking season. At Penticton, this was combined with a "first-roots" and "first fish and game" ceremony, where four young women went out to dig the first bitter-roots, four to pick the first Saskatoons, and four young men went out fishing and hunting. The proceeds from these harvests were used to give a feast for the entire tribe. At Big Bar, where there were several good Saskatoon patches, women would come from Clinton and Alkali Lake at the direction of the local chief. On a designated day, they went out and each picked only a few for themselves and their friends to eat fresh. After that they picked all they could and began to dry them for winter.

MATERIAL USES:

GENERAL IMPLEMENTS:

- 1945 Erna Gunther, Ethnobotany of Western Washington, 38. "The Snohomish use the wood of this plant for discs for slahalem, one of the local gambling games. These discs are about the diameter of a silver dollar, and twice as thick. The Samish and Swinomish exploit the toughness of this wood in using it as the spreader in the rigging of the halibut line. Even a large halibut could not break this." (46-38)

- 1969 R.C. Hosie, Native Trees of Canada, 234. "The wood is hard, heavy and suitable for turnery, but, because of the scattered distribution of the trees and their small size, is of no commercial importance. Some of the species are

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useful as ornamentals or as grafting stock for some domestic fruit trees, such as pear and quince." (39-234)

- 1975 Edward K. Balls, Early Uses of California Plants, 68. "The shaft of the salmon harpoon (from Northern Coast of California) was made from this wood, being tipped with fore-shafts of a Service-Berry, *Amelanchier pallida*." (43-68)

- 1979 Nancy J. Turner, Plants in B.C. Indian Technology, 232. "Saskatoon wood was also extensively used for making digging sticks, spear and harpoon shafts, and implement handles. The Okanagan also made barbecue sticks and seed beaters from it, and the Shuswap made barbecue sticks, basket frames, and crose-pieces for canoes. Both the Shuswap and the Lillooet placed a grid of green Saskatoon sticks at the bottom of birch-bark cooking baskets to prevent them from being burned through by red-hot rocks. They also used Saskatoon twigs for lining steaming pits and as salmon spreaders for drying and cooking salmon. (The wood is said not to give a bitter flavour to the fish.) The Lillooet commonly constructed shelters from the branches for drying salmon and berries. The Carrier made slat armour and shields from the wood, covering them with animal hide, and wove mats from the branches on which to dry berries. On the Coast, the Saanich used Saskatoon to make herring rakes. The ends of these rakes were studded with rows of spikes, to impale the fish as the implement was swept through the water." (137-232)

PRODUCTION OF ARROWS:

- 1852 Sir John Richardson, Arctic Searching Expedition: A Journal of a Boat-voyage through Rupert's Land and the Arctic Sea. "Its wood, being tough, is used by the natives for making arrows and pipe-stems, and has obtained on that account the name of 'bois de fleche' from the voyagers.." (305-115)

- 1979 Nancy J. Turner, Plants in B.C. Indian Technology, 230. "The wood is hard, straight-grained, and tough. It can be rendered even harder by heating it over a fire and is easily moulded while still hot. Its most

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important use was for making arrows. All of the Interior Salish groups - the Okanagan, Thompson, shuswap, and Lillooet - as well as the Kootney, Carrier, Gitksan, Straits Salish, Upper Stalo, and the Flathead of Montana, used it for this purpose. In most of these areas it was the major arrow-making material. A thin, straight branch was chosen and stripped of any leaves or twigs. At least in the Lillooet area it was thoroughly chewed to loosen the bark and break the grain of the wood to prevent it from curling or warping later. The bark was then removed and the wood was fire-hardened. One end was feathered and the other tipped with a bone, stone, or metal point, or simply sharpened. The surface was polished with horsetail stems, and often designs were painted along the shaft." (137-232)

BASKETRY:

- 1976 Francis H. Elmore, Shrubs & Trees of the Southwest Uplands, 136. "The slender, straight, peeled branches were used by the White Mountain Apaches to form the uprights of their large carrying baskets." (374-136)

DYEING:

- 1975 Catharine McClellan, My Old People Say - An Ethnographic Survey of Southern Yukon territory, Part 1, 315. "A Tagish woman...listed the following aboriginal dyes: Alder bark for dark wine, blackberries (*Empetrum nigrum*) for black, saskatoon berries (*Amelanchier alnifolia* [Nutt.]) for dark blue, and the lichen (*Letharia*)...for yellow." (296-316)

- 1979 Nancy J. Turner, Plants in B.C. Indian Technology, 232. "The berries were mashed and used by the Thompson and other Interior Salish peoples to stain such materials as silverberry bark, used in making bags." (137-232).

CULTIVATION:

- 1972 Stanley B. Whitehead, Flowering Trees & Shrubs, 38. "Propagate by fresh seeds in autumn; by softwood cuttings in July; by layering in spring; or

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in the case of shrub species by division in November." (78-38)

- 1974 J. Pokorny, Flowering Shrubs, 104. "Widely cultivated in European parks are the North American species *A. laevis* and *A. canadensis*, which grow to heights of 6-10 m." (70-104)
- 1978 Joy Spurr, Wild Shrubs, 38. "Beautiful white flowers, edible fruit, and yellow fall foliage make serviceberry a worthy candidate for the home landscape. It is tolerant of poor soil and moisture conditions and survives in neglected areas of the garden. Early in the growing season, kind treatment and ample moisture encourage the plant to grow rapidly. Train it as a shrub or as a small tree, and place it against a dark background to emphasize its leafless winter form." (114-38)
- 1981 Robert Hendrickson, The Berry Book, 217. "All types are hardy from zone 2 or 3 southward, standing temperatures as low as -20~F., and make handsomeamentals with their profuse bloom, colorful fruit, and attractive bark and autumn foliage." (207-217)
- 1981 Robert Hendrickson, The Berry Book, 218. "Of the 25 or so species, all great favorites of birds, the following are the best to grow for their fruits. *Amelanchier Alnifolia* (Saskatoon): Available from Beaverlodge Nursery, Beaverlodge, Alberta, Canada; Field; Gurney. Named varieties include 'Regent' and 'Smoky'. *Amelanchier laevis*: Offered by Raymond Nelson Nursery, Dubois, Pennsylvania 15801. *Amelanchier stolonifera* (Dwarf Juneberry or Quebec berry): Sometimes sold by nurseries under the name 'Success'. *Amelanchier oblongifolia* (Swamp sugar pea). *Amelanchier canadensis* (Juneberry, Serviceberry, Shadblow): The commonest Juneberry." (207-218)
- 1982 Arthur R. Kruckeberg, Gardening with Native Plants, 108. "Propagation by seeds requires cold stratification for three to six months (33~ to 44~F.). Seeds should be free of pulp. Treated cuttings under mist can also be tried. So common a plant gives seedlings frequently in places of disturbance, and careful collecting of plants from such transient spots may be

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condoned." (271-108).

- 1985 Eleanor Lawrence, The Illustrated Book of Trees & Shrubs, 205.  
"..occasionally they are also grafted onto hawthorn or mountain ash rootstock."  
(403-205)

HISTORY/BELIEFS:

HISTORICAL RECORDS:

- 1604 Champlain-Purchas Tadoussac 181. "There are in these parts great store of Vines, Peares." (369-166)
- 1609 Lescarbot-Erondelle Port Royal 301. "In the woods...I have seen there small pears very delicate." (369-167)
- 1620 Mason Newfoundland A;iv. "The Countrie fruities wild, are cherries small, whole groaves of them. Filberds good, a small pleasant fruite, called a Peare." (369-166)
- 1919 U.P. Hedrick, Sturtevant's Edible Plants of the World, 44. "For many years a Mr. Smith, Cambridge, Massachusetts, has cultivated var. oblongifolia in his garden and in 1881 exhibited a plate of very palatable fruit at the Massachusetts Horticultural Society's show." (394-45).
- 1985 Eleanor Lawrence, The Illustrated Book of Trees & Shrubs, 205.  
"..it has been in cultivation from as early as 1623; its introduction to England dates from 1746." (403-205)

SPIRITUAL BELIEFS:

- 1934 Leslie L. Haskin, Wild Flowers of the Pacific Coast, 165. "The

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Klamath Indians trace their origin from this plant, according to one of their myths. In this story "Old Martin" caused the first people to be made from service-berry bushes." (335-165)

- 1977 R.G.H. Cormack, Wildflowers of Alberta, 146. "The beautiful white, somewhat ragged flowers were used in ceremonies to symbolize spring." (256-146)

NOMENCLATURE:

- 1913 Hodge & White 410. "Saskatoon. A name in use in w. and s.w. of Canada for the service berry...probably a corruption of misaskwatomin which is the name applied to the fruit in the Cree dialect of Algonquian, signifying "fruit of the misaskwa, the tree of much wood'." (*A. alnifolia*) (369-167)

- 1934 Leslie L. Haskin, Wild Flowers of the Pacific Coast, 163. "Our name, service-berry, is a corruption of the old botanical name, 'Sorbus', formerly applied to this genus, and it is probable that the English name of savoy, given to the European species, comes from the same source. It is the shad-bush in New England, because it blossoms at the season of the annual run of shad. In the middle west it is the June-berry, from the ripening of the fruit in that month. In Western Canada it is the saskatoon, a name of Indian derivation. Among the early western explorers it is often spoken of as the mountain pear." (335-163)

- 1958 George A. Petrides, A Field Guide to Trees & Shrubs, 241. "In the eastern states, near tidal rivers, the name shadbush is a result of the flowers appearing when the shad ascend coastal streams to spawn." (28-241)

- 1973 Eliot Wigginton, Foxfire 3, 278. "Both trees are called "service" berries because their flowering branches were picked and carried into churches for the Easter Service." (227-278)

- 1973 Hitchcock & Arthur Cronquist, Flora of the Pacific Northwest, 208. "Derivation (of latin name) obscure, perhaps from French name for a European

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species." (287-208).

- 1974 Nancy Jean Turner, *Sysis*, Volume 7. 1. Six varieties of Saskatoon berries (*Amelanchier alnifolia*) as distinguished by Fraser River Lillooet Indians: (148-63)

<ul style="list-style-type: none"><li>- spekpek ("white" variety), low bushes, small seeds, &amp; juicy fruit.</li><li>- swelhkwa7-u7sa7 ("red" variety), tall bushes &amp; very sweet berries.</li><li>- nek'nakw'-ukw'sa7 ("rotten" variety), tall bushes, big seeds,   bad-tasting fruits.</li><li>- stl'exe'lus ("sweet-eye" variety), Medium bushes &amp; very sweet berries.</li><li>- stsekwm-ul ("real Saskatoons"), tall bushes, small seeds, and bad tasting fruit.</li><li>- stex-lus ("bitter-eye" variety), medium bushes &amp; bitter late-ripening fruit.</li></ul>	
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- 1976 Lewis J. Clark, *Wild Flowers of the Pacific Northwest*, 236. "Among the Siksika (Blackfoot) the valued bush was called "Mis-ask-wu-toomina", shortened by white settlers to "Saskatoon". (1-236)

- 1976 Lewis J. Clark, *Wild Flowers of the Pacific Northwest*, 233. "The origin of the generic is obscure. Paxton's *Botanical Dictionary* of 1849 quotes Clusius (de l'Ecluse, the Fleming who studied at the famous Medical Botanic Garden at Montpellier in 1551) as his authority that this was the Savoy name for the European Medlar. *Alnifolia* clearly means with 'alder-like foliage'." (1-233)

- 1977 R.G.H. Cormack, *Wildflowers of Alberta*, 146. "The Indians called this familiar western shrub Misaskutum, shortened today to Saskatoon, which means, "the tree with much wood"." (256-146)

- 1981 Robert Hendrickson, *The Berry Book*, 217. "Its name serviceberry has

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a touching story behind it. Since its white blossoms bloomed almost as soon as the ground thawed in spring, pioneer families that had kept a body through winter to bury in workable ground used these first flowers to cover the grave." (207-217)

- 1987 Bill & Bev Beatty, Wild Plant Cookbook, 156. "The name 'Serviceberry' came about because the circuit-riding preachers would make their rounds, holding church 'services', in the mountain communities about the time of the flowering of these beautiful trees." (405-157)

RELATIONSHIP TO OTHER LIFE-FORMS:

- One of the first shrubs to be eliminated or drastically retarded on overused ranges - called an 'indicator plant'.

- "Lygus" - tarnished plant bugs (200-81) eat the flower buds and flowers. The 'fruit maggots' and scale insects are common pests. Fire blight, fungus, rust, and several types of mildew also attack the saskatoon plant.

- 1958 George A. Petrides, A Field Guide to Trees & Shrubs, 241. "They (the berries) are eaten by many songbirds, wild turkey, ruffed and sharptail grouse, bobwhite, mourning dove, striped skunk, red fox, raccoon, black bear, red and gray squirrels, and chipmunks. Cottontail rabbit, beaver, whitetail deer, and moose browse the twigs." (28-241)

- 1965 Warren R. Randall, Manual of Oregon Trees and Shrubs, 147. "All are hosts of the cedar apple fungus."

- 1976 Francis H. Elmore, Shrubs & Trees of the Southwest Uplands, 136. "The berries and foliage are a favorite food for over 60 species of wildlife." (374-136)

- 1981 Robert Hendrickson, The Berry Book, 219. "Juneberries should not be planted within 500 yards of junipers as they are alternate hosts for some

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juniper rusts." (207-218)

- 1981 The Audubon Society, Field Guide to North American Butterflies, 482. "Coral Hairstreak (*Harkenclenus titus*). Life Cycle: Egg overwinters. Downey caterpillar yellowish-green, pinkish in middle of back; feeds on developing fruits of plums and wild cherries (*Prunus*), also western serviceberry (*Amelanchier alnifolia*)." (153-483)
- 1982 Encyclopaedia Britannica, Volume II, 665. "Cedar-apple rust, common disease in North America of red cedar (*Juniperus virginiana*), related *Juniperus* species, apple and crab apple, caused by the fungus '*Gymnosporangium juniperi-verginianae*'. Greenish-brown to chocolate-brown galls (cedar apples) that are round to kidney-shaped and up to two inches in diameter form on red cedar and other juniper twigs. In rainy spring weather, the galls are covered with jellylike, yellow to orange-brown spore horns up to two inches (5 centimetres) long. A single gall may produce several billion spores (basidiospores or sporidia). The wind-borne spores infect young leaves and fruits of apple and crab apple. Pale yellow to orange-yellow spots that develop sticky centres and minute, black fruiting bodies (pycnia) form on the leaves and usually near the calyx end of fruit. Orange, tubelike structures (aecia) later develop on the underside of leaves and on the fruit, which drop early. Spores produced in the aecia (aeciospores) are wind-borne in late summer to junipers on which leaf infections occur. Galls do not produce spores until the second spring, completing the two-year cycle." (EB II-665)
- 1986 Scotter & Flygare, Wildflowers of the Canadian Rockies, 12. "Bears, chipmonks, squirrels, and a host of birds also relish the fruits. All of the native ungulates are fond of the leaves and twigs." (344-12)

AGE:

- 1978 V.H. Heywood, Flowering Plants of the World, 145. "The fossil record shows the Rosaceae to be among the most ancient of dicotyledons, and its general structure and antheiology suggest that it is among the more primitive."

ILLUSRATIONS:

- Good B/W on flowers & berries on Coast species (342-599)
- Fair illustrations of parts (287-208)
- Good B/W on Berries & Flowers (269-221)
- Good B/W on berries (104-135)
- Excellant B/W on berries (79-109)
- Excellant B/W on berries & Flowers (85-21)
- Excellant B/W on berries, flowers, & bush (374-136)
- Excellant color photo of bark, leaves (383-91)
- Excellant color photo of flowers (383-184)
- Good distribution map (383-388)
- Excellant Color Drawing of berries & Leaves (33-231)
- Excellant color Photos of flowers, berries (294-28)
- Excellant color Drawing of *A. ovalis* Berries & flowers (70-104)
- Excellant color Drawings of *A. conadensis* (403-205)
- Excellant B/W Drawings of *A. alnifolia* (116-38)

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The information in these articles is primarily for reference and education. They are not intended to be a substitute for the advice of a physician. The instructor does not advocate self-diagnosis or self-medication; He urges anyone with continuing symptoms, however minor, to seek medical advice. The reader should be aware that any plant substance, whether used as food or medicine, externally or internally, may cause an

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allergic reaction in some people.

Maurice L.B. Oates Jr., M.A.  
(Ya'-ga-hlo'o)

LATIN NAME: *Amelanchier alnifolia* (Nutt.) Nutt (342-599):