

Labrador_Tea_North_Temperate_And_Sub-Arctic_Regions_1993.txt
LABRADOR TEA RESEARCH

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LATIN NAME: *Ledum groenlandicum* Oeder (61-86, 287-345)

OTHER LATIN NAMES: *Ledum palustre* L.ssp. *groenlandicum* (Oeder) Hulten (61-86, 342-718); *Ledum pacificum* Small (61-86, 287-345, 342-718); *Ledum palustre* var. *dilatatum* Gray; *Ledum latifolium* Ait. (61-86); *Ledum latifolium* Jacq. (272-213);

- 1978 Turner & Szczawinski, *Wild Coffee & Tea Substitutes of Canada* #2, 55. "Some botanist prefer to recognize '*Ledum palustre*' as two or more separate species, including '*L. palustre*' and the well-known '*L. groenlandicum* Oeder', but we have treated the latter as a subspecies of '*L. palustre*'. It grows taller than other subspecies and has broader leaves." (98-55)

COMMON NAMES:

Labrador-Tea (22-100); Labrador Tea (61-86); Common Labradore Tea (61-86); St. James tea (141-460), Hudson's Bay Tea, Muskeg Tea, Bog Tea, Moth Tea, Marsh Tea, Indian Tea, Continental Tea, Skan Dax Ddaxahl (GITKSAN), Xil kagann (HAIDA); dax do'oxt (GITKSAN, 242-140); k'wula'maxs (Port Simpson Coastal Tsimshian, 252-107, 243-55); Marsh Cistus, Wild Rosemary, Wild Rosmarin, *Rosmarinus Sylvestris*, Porsch, Sumpfporsch, Finne The' (141-460); Weesukapuka (369-195), wish-a-ca-pucca (305-85); Xil kagann (HAIDA, 220-22); Swamp tea, Trappers' tea (103-145); Bogulnik or Herba Ledu (RUSSIAN, 215-172); The du Labrador, The Veloute', Ledon (French Canadian, 206-124); Rosemary Flowers (314-102); Puyasmes (KWAKIUTL, 150-283); Puyas (KWAKIUTL, 'leaves', 150-283);

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Puuyas (Bella Coola, 148-51); Nuwaqwa'nti (QUINAULT, 46-43); Bupesbupt (MAKAH, 46-43); S'lxt ciltin (TLINGIT, 296-227); Ludi musjek (CARRIER, 251-333); suxwskakxain (Lillooet & Shuswap, 148-52); gaawaa'-sk'ejaaw (Haida-M, 148-58); Mogulnik (Russian, 339-38); Muckig'obug (Chippewa, Swamp Leaf, 211-290); Pu7yaas (Nuxalk, 331-43); Bog Ledum (287-345); Moth Herb (195-261); mi'lawebu'q (Montagnais), pusipga-'skil (Malecite), muskeg musrig (Cree), karkar pukwa (Cree) 435-2269);

SIMILAR SPECIES:

1. *Ledum glandulosum* Nutt. (61-84)

Two varieties in B.C.: (287-345)

(a) *L. glandulosum* Nutt. var. *columbianum* (Piper) Hitchc. (287-345): Leaves strongly revolute, 3-5 x scarcely 1(1.5) cm; caps ovoid, 4-5.5 mm; RANGE: Pacific Co, Wn, South along coast to Marin Co, California (287-345); Syn: *Ledum californicum*, *Ledum glandulosum* ssp. *californicum*, *Ledum glandulosum* ssp. *californicum* var. *australe* (287-345);

(b) *Ledum glandulosum* var. *glandulosum* (287-345): Leaves plane or slightly revolute, 1.5-3 (4) cm, generally at least half as broad; (287-345); Caps subglobose, 1-3 (4.5) mm (287-345); British Columbia south, on the east side of the Cascades, to Wn, east in British Columbia to the Rocky Mountains, south to Montana and Northern Wyoming, west to central Idaho and northeast Oregon (287-345);

OTHER LATIN NAMES: *Ledum californicum* Kell. (61-84);

COMMON NAME: Glandular Labrador, Trapper's tea, Coastal Labrador Tea, Western Labrador tea (61-84); Labrador Team, Smooth Ledum, Mountain Ledum (287-345);

DESCRIPTION: Stout, erect shrub, 0.5-1.5 m. tall, with twigs puberulent and minutely glandular. (61-84);

LEAVES: Petiolate, elliptic to oval, up to 5 cm. long, green and rugose above, whitish-puberulent and resinous-granuliferous beneath, more or less revolute. (61-84);

FLOWERS: White, in terminal raceme; pedicels up to 2 cm. long, puberulent and usually glandular; sepals ciliate on the margins; petals oblong, up to 8 mm. long; stamens 8-12 (usually 10), considerably longer than the style, densely hairy below the middle. Season is June to August. (61-84);

FRUIT: Capsule, about 5 mm. long, globose to ovoid, puberulent and glandular (61-84);

HABITAT: Wet mountain meadows and wet open woods on higher elevations (61-84);

RANGE: British Columbia to California, eastward to the Rocky Mountains and southward to Wyoming; also in Idaho and Oregon (61-84); Restricted to the Southwest and Southeast Interior, where it is quite abundant locally and well defined in its distribution. (61-84);

COMMENTS: Glandular labrador tea is easily separated from other specie, having leaves which are green and rugose above, pale greenish and densely glandular beneath. The leaves in other species are densely rusty-tomentose beneath. Young twigs are finely pubescent and glandular-dotted. Of apparent geographic significance is var. *columbianum* (Piere) C. L. Hitchc. (L. *columbianum* Piper), characterized by strongly revolute, narrow leaves, 3-5 cm. long and less than 1 cm. in width. This variety is rare with us, and the only specimen I have seen came from Vancouver, collected by J.K. Henry (1901). This record seems to be outside its range. The typical form, var. *glandulosum*, is rather a mountain plant and differs from var. *columbianum* by having entire or only slightly revolute leaves, about half as broad as they are long, and a distinctly globose capsule (61-86).

2. *Ledum decumbens* (Ait.) Lodd.

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OTHER LATIN NAMES: *Ledum palustre* var. *decumbens* Ait.(342-717); *Ledum palustre* var. *angustifolium* Herder, *Ledum palustre* subsp. *decumbens* (Ait.) Hult. (61-81, 342-717); *Ledum decumbens* (Ait) Small. (342-717)

COMMON NAME: Northern Labrador Tea, Narrow-leaved labrador tea (61-83);

DESCRIPTION: Similar to *Ledum groenlandicum* and the separating characters are confined mostly to the size of shrub, which in this species is much smaller (10-50 cm.), being more decumbent; leaves linear, which very seldom exceed 25 mm. in length and 3 mm. in width; stamens in most cases 10 in number, having filaments pubescent below the middle and much smaller fruit (capsule), only 3-4 mm. long. Other characters as in *Ledum groenlandicum*. (61-83); Low shrub, with brown, puberulent young twigs, glabrescent in age, flowers in umbel-like clusters; leaves linear, somewhat acute, with strongly revolute margin, shiny and glabrous above, cinnamon-brown, woolly beneath; pedicels rusty-puberulent; stamens mostly 10, hooked or curved at maturity; flowers white or pinkish (342-717);

HABITAT: Limited to cold muskegs and bogs in lowland and alpine situations within its range. (61-83); Heaths, dry, rocky places, in the mountains to at least 1,800 meters; very common. Described from Hudson Bay (342-717);

RANGE: Alaska, Yukon, through Northwest Territories to Labrador and Newfoundland and west Greenland, south to B.C., northern Manitoba. Eurasia. (61-83);

COMMENTS: *Ledum decumbens* and *Ledum groenlandicum* are quite closely related to *Ledum palustre* L.; Hulten (1948) prefers to regard both of them as geographical races (subsp. of *L. palustre*). Undoubtedly there is a variation within these three populations and the relationships between them is still unclear. (61-84)

CLASSIFICATION:

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CLASS: Angiospermae (118-10)

SUBCLASS: Dicotyledoneae (118-10)

SUPERORDER: Dilleniidae (118-14)

ORDER: Ericales (118-14)

- 1982 Encyclopaedia Britannica, Volume 6, 954. "An order of about 2700 species of plants, largely shrubs or small trees, arranged in ten families and about 135 genera." (EB 6-954)

FAMILY: Ericaceae (Heather)

- 1978 V. H. Heywood, Flowering Plants of the World, 124. "About 100 genera, and about 3000 species."

- 1978 V. H. Heywood, Flowering Plants of the World, 127. "An outline of Stevens' classification (omitting Proloideae) is given below, with five subfamilies:

Rhododendroideae: 7 tribes with 19 genera.

Ericoideae: About 20 genera

Vaccinioideae: 5 tribes with 50 genera.

Wittsteinioidae: One genus (Wittsteinia from Australia).

Monotropoideae: Chief genus Monotropa. Some authorities place members of this subfamily within its own family Monotropaceae.

- 1962 A.F. Szczawinski, The Heather Family, 9. "About 70 genera and more than 1,900 species." (61-9)

- 1962 A.F. Szczawinski, The Heather Family, 7. "About 60 members of the family Ericaceae occur in B.C., but none of them is a true heather or true

heath. (61-7)

- 1982 Encyclopaedia Britannica, Volume 6, 957. "Shrubs; subshrubs; occasionally woody, perennial herbs; or small trees. Seventy to 80 genera with 1500 to 1900 species widely distributed on acid soils throughout temperate Northern and Southern Hemisphere regions, in sub-Arctic regions, and in high mountains in the tropics." (6-957)

SUB-FAMILY: Rhododendroideae (206-124)

GENUS: *Ledum*

- 1962 A.F. Szczawinski, The Heather Family, 9. "A genus of four species, native of the north temperate and sub-arctic regions." (61-81)

- Three (3) species are found in B.C.: (287-345)

L. groenlandicum Oeder

L. glandulosum Nutt. var. *columbianum* (Piper) Hitchc.

L. glandulosum Nutt. var. *glanulosum*

- 1984 Marilyn Walker, Harvesting the Northern Wild, 85. "Two species of Labrador tea, *Ledum decumbens* (Ait.) Lodd. and *Ledum groenlandicum* Oeder, grow in the NWT." (305-85)

PLANT DESCRIPTION:

GENERAL: Erect or diffuse shrubs, freely branched with resinous fragrant foliage, not more than 1 meter tall. (61-81); Erect shrub up to 1 m. tall, with densely rusty villose-tomentose twigs. (61-86); Larger than subsp. *decumbens* (342-718); A small evergreen shrub, much branched, with stems 30-90 cm long. It grows in colonies or patches. Flowering-time: Late spring or early summer. STEM: Woody. New stems are woolly, greenish becoming

golden-brown. Old ones are dark and scaly. ROOT: A long and creeping underground stem (206-124); A scraggly shrub, 0.5 - 2.0 meters (20 to 80 inches) high, forming dense patches. (103-145);

LEAVES: Leaves alternate, sessile or short-petioled, entire, leathery, and persistent (61-81); Lower surface of leaves densely rusty-tomentose beneath. Leaves elliptic to oblong, 2-5 cu. long; (61-81); Lower surface of leaves pale greenish, not tomentose (61-81); Lower surface of leaves densely rusty-tomentose beneath. Leaves linear, up to 1.5 cm. long (61-81); Short-petioled, linear to elliptic, up to 6 cm. long, leathery, deep green, glabrous and somewhat reddish-lanate above, with distinctly revolute margins. (61-88); Leaves oblong to linear-oblong, obtuse; stamens mostly 8. Described from Greenland (342-718); Evergreen shrubs with leathery, entire, often revolute leaves, often strongly glandular (287-345); Leaves linear-elliptic, 2-6 cm, densely rusty-lanate beneath, strongly revolute (287-345); Leaves strongly revolute, 3-5 X scarcely 1 (1.5) cm; caps ovoid, 4-5.5 mm (287-345); LEAVES: Aromatic, deep olive-green, alternate. Tender new ones can be used for tea. Their stalks are very short. MARGIN: Untoothed, rolled under. SURFACE: Leathery above, very wooly and white to golden-brown beneath. VEINS: Branching, short and straight (206-124); The young leaves, pointed upwards, are light green with white fuzz underneath, as they mature they turn downwards and become dark green, or eventually reddish-brown, and the fuzz underneath becomes a deep-rust colour. (98-55); The leaves, crowded toward the tops of the twigs, are elongated, rounded with inrolled margins and densely fuzzy beneath. Young leaves are light green, pointing upward, with white fuzz beneath. In older leaves the blades are dark green to reddish, pointing groundwards, and the fuzz is rust-coloured. (103-145); The undersides of the leaves are pale and resinous-dotted and the margins are not rolled in." (8-23);

FLOWERS: Flowers, many, in terminal racemes or corymbs, from large scaly buds, the new growth of the season originating at the base of the flower clusters. Perianth 5-merous; calyx very small, divided nearly to the base; petals distinct to the base, white or tinged with pink; stamens 10 (5-12),

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with slender filaments; anthers oblong-oval, unawned, opening by small round pores; ovary 5-celled with elongate and persistent style (61-81); Stamens, 5-7, their filaments mostly glabrous (61-81); White, about 1 cm. broad in terminal umbel-like clusters from large scaly buds; pedicels and bracts finely puberulent and glandular; petals spreading, 5-8 mm. long, oblong, rounded at the apex and narrowed at the base; Stamens 5-10; filaments glabrous or sometimes pubescent at base, slightly exceeding the style; styles up to 6 mm. long, nearly straight (61-86); stamens 5-10, slightly greater than style (287-345); Flowers in terminal racemes or corymbs, 5 (4-6) -merous; petals white, spreading to subrotate; stamens 10 (5-12), filaments slender, anthers unawned, opening by terminal pores (287-345); FLOWERS: Many, 10-15 mm across, stalked, in dense clusters at the tips of branches. They have golden-brown bud-scales, which drop as the flowers expand. Later in the season new leaf-growth arises from the base of the flower-cluster. Pink buds for next years blossoms appear in the autumn. PETALS: 5, white; CALYX: minute, 5-toothed, green; STAMENS: 5 to 10, white, tipped with pale yellow; PISTIL: Green, rounded at base. Style long, white. (206-124);

FRUITS/SEEDS: Fruit a capsule, opening by 5 valves from the base; seeds minute, elongate and winged. (61-81); Capsule narrowly ovoid, puberulent, up to 7 mm. long. (61-88); Caps 5-valved, septicial from base upward; (287-345); FRUIT: A narrow oval capsule with curving style, which remains until the following year. The stalk curves downward as the capsule ripens. SEEDS: Many, small. (206-124); The fruit is a drooping 0.5 cm long capsule that opens by valves from the bottom up. The numerous minute spindle-shaped and winged seeds are dispersed by the wind. (332-124) The seed capsules are brown and woody. (103-145);

HABITAT: Common in muskeg, swamps, bogs, and moist coniferous woods, on wet, acid mountain meadows in the north.(61-88); Swamps, Damp woods, wet roadsides (206-124); It is found in scrub, heath moors and open pine woods. (332-124)

RANGE: Native of the north temperate and sub-arctic regions. (61-81); Boreal zones; Alaska to Greenland, south to New England; in the west along the coast

to northwest Oregon. One of our most common and most widespread members of the Heather Family, distributed throughout the Province in suitable habitat (61-88); Alaska to Greenland, south along coast, mostly in swamps and bogs, to Northwest Oregon, possibly also to northern Idaho, east to Greenland and north Atlantic states (287-345); *Ledum palustre* grows in the coniferous woodland belt of the eastern parts of central and northern Europe, northern and central Asia, north Korea and Japan and in the cold parts of North America. (332-124); Covers miles of Marshland in European Russia, Siberia, and the Far East. (215-172)

PLANT USES

TOXICITY:

- 1931 M. Grieve, *A Modern Herbal*, 460. "Of infusion, 2 to 4 fluid ounces three to four times a day. Overdoses may cause violent headache and symptoms of intoxication." (369-196, 141-460)
- 1962 Adam Szczawinski, *The Heather Family of B.C.*, 81. "All species have been reported as having a poisoning effect when browsed by animals, especially by sheep. As far as is known, the toxic principle appears to be andromedotoxin (a resinoid carbohydrate, 16-51). Since most of these plants have rather tough and bitter leaves, animals seldom eat them if more palatable forage is available." (61-81)
- 1962 Adam Szczawinski, *The Heather Family of B.C.*, 89. "The related species, *L. glandulosum*, is not suitable for making a beverage, and it is believed to have some poisonous effects." (61-89)
- 1976 Lewis Clark, *Wild Flowers of the Pacific Northwest*, 380. "Ledol, a toxic compound that can induce cramps and paralysis has been isolated from the leaves of all of the *ledum* species. Possibly in the low concentrations of the pioneers' brew, this substance may have produced restorative effects similar to those resulting from caffeine in tea." (1-380)

- 1977 John Tampion, *Dangerous Plants*, 107. "...All species of *Kalmia*, *Ledum*, *Leucothoe*, *Menziesia*, *Pieris*, *Rhododendron*, *Lyonia*, *Andromeda*, should be considered potentially toxic. Honey from Ericacean pollen is suspected of causing some human poisonings." (120-107)

- 1983 Frantisek Stary, *Poisonous Plants*, 124. "All parts of the plant contain an aromatic, poisonous essential oil, although the leaves and flowers have the greatest concentration (0.5-3%). Its toxicity is due to the sesquiterpenic crystalline alcohol ledol and perhaps also palustrol. In recent years, doubts have been expressed as to the concentrations of the glycosides arbutin and ericolin generally given in the literature but this is not a determining factor in the plant's toxicity. Ledol has an irritant action and, taken internally, causes a state of excitement and intoxication at first, later vomiting, abdominal pains and severe diarrhoea. It also causes congestion of the lower pelvic region, has an irritant effect on the kidneys and urinary passages, and may cause miscarriage in pregnant women. Further symptoms, in the case of larger quantities, are muscular pains, giddiness, cramps and collapse." (332-124)

- 1983 Frantisek Stary, *Poisonous Plants*, 124. "People are known to have been poisoned but, in animals, poisoning has been reported only in goats. Poisoning has ended in death for pregnant women who tried to abort the foetus by taking large doses of the extract from Wild Rosemary. Medicinal therapy used mainly galenical preparations from the crude drug (the dried flowering twigs or leaves): tinctures, infusions and, for external application, ointments. Ailments treated included rheumatic pains, whooping cough and inflammation of the upper respiratory passages. In folk medicine, Wild Rosemary is used externally to treat wounds (the essential oil has antiseptic properties), persistent eczemas and to destroy undesirable parasites." (332-124)

- 1984 Canadian Pharmaceutical Association, *Poison Management Manual*, 44. "All of the plant parts (of andromedotoxin plants) contain the toxic principle andromedotoxin. Poisonings have occurred in children from sucking on the

flowers or drinking a "tea" made from the leaves. Ingestion of honey made from the nectar of rhododendron has also resulted in toxic effects. Fatalities have been reported from ingestion of sheep laurel (or lambkill) and Japanese pieris." (353-44)

POISON SYMPTOMS:

- 1982 Encyclopaedia Britannica, Volume 6, 955. "The poison causes watering of the mouth, eyes, and nose; vomiting; slow pulse; and depressed blood pressure. Massive ingestion of andromedotoxin results in convulsions and slow and progressive paralysis until death; fatalities, however, are rare." (EB 6-955)
- 1984 Canadian Pharmaceutical Association, Poison Management Manual, 44.
- Initial burning of mouth, tongue, and pharynx.
- Systemic effects may be delayed for up to 6 hours after ingestion and include salivation, nausea, vomiting (may be severe), and diarrhea.
- Drowsiness, headache, ataxia, muscle weakness; possible convulsions.
- Generalized paresthesias may occur.
- Hypotension, bradycardia; possible cardiac arrhythmias.
- Respiratory depression.

TREATMENT:

- 1984 Canadian Pharmaceutical Association, Poison Management Manual, 44. "
1. Empty stomach if patient is not already vomiting. Follow with activated charcoal and a saline cathartic.
 2. Maintain ventilation. Oxygen is required.
 3. Monitor ECG, blood pressure.
 4. Maintain fluid and electrolyte balance.
 5. Hypotension unresponsive to fluid replacement may be treated with dopamine.
 6. Atropine may be given to treat bradycardia.
 7. Control excitation or convulsions with i.v. diazepam.

CONSTITUENTS:

- 1830 C.S. Rafinesque, Medical Flora or Manual of Medical Botany of the United States, Volume I, 236. "Contains 20 chemical substances, even wax and osmazome, very near to Chinese tea, but stronger, owing to fragrant resin. Leaves bitterish, nidorose (reeking) cephalic, pectoral, exanthemic, &c. Useful in coughs, exanthema, itch, scabies, leprosy &c. In strong decoction kills lice and insects. Said to be narcotic and phantastic by Schoepf." (369-195)
- 1931 M. Grieve, A Modern Herbal, 460. "CONSTITUENTS: There has been found in the leaves tannin, gallic acid, a bitter substance, wax, resin, and salts." (141-460, 116-66)
- 1931 M. Grieve, A Modern Herbal, 460. "Ledum palustre: The leaves contain a volatile oil, including 'ledum camphor', a stearopten, with valeric and volatile acids, ericolin, and ericinol. The tannin is called leditannic acid." (141-460)
- 1978 Bradford Angier, Field Guide to Medicinal Wild Plants, 163. "Ledum palustre, according to a fairly recent U.S. Dispensatory, contains the glucoside ericolin, tannin, and valeric acid, among other things." (201-163)
- 1981 Arnason, Hebda, & Johns, Use of Plants for Food and Medicine by Native Peoples of Eastern Canada, 2237. "Ledum groenlandicum Oeder.: LEAVES (100 grams of plant material): H2O (47.2 g), Protein (9.8 g), Ascorbic Acid (10 mg)." (435-2237)
- 1987 Eleanor G. Viereck, Alaska's Wilderness Medicines, 44. "The tannin is called leditannic acid, and there are gallic acid (a bitter substance), wax, resin, salts, and ascorbic acid. Be warned that Labrador tea contains ledol, a poisonous substance causing cramps and paralysis. Grieve says the plant

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also contains a stearopten, valeric and volatile acids, ericolin, and ericinol." (407-44)

FOOD USES:

EUROPEAN FOOD USES:

- 1795 Samuel Hearne, A Journey from Prince of Wales Fort in Hudson's Bay to the Northern Ocean in the Years 1769, 1770, 1771, and 1772. "It is, however, much used by the lower class of the Company's servants as tea; and by some is thought very pleasant. But the flower is by far the most delicate, and if gathered at the proper time, and carefully dried in the shade, will retain its flavour for many years and make a far more pleasant beverage than the leaves. There are several species of this plant, of which some of the leaves are nearly as large as that of the Creeping Willow, while others are as small and narrow as that of the Rosemary, and much resembles it in colour; but all the species have the same smell and flavour." (305-86)

- 1823 Sir John Franklin, Narrative of a Journey. "Our only luxury (while navigating the Polar Sea in two canoes) now was a little salt, which had long been our substitute both for bread and vegetables. Since our departure from Point Lake we had boiled the Indian tea plant, 'ledum palustre,' which produced a beverage in smell much resembling rhubarb; notwithstanding which we found it refreshing, and were gratified to see this plant flourishing abundantly, though of dwarfish growth, on the sea-shore." (131-Lab Tea)

- 1888 Delamare Island of Miquelon transl. 25. "An infusion of the leaves is used in Saint-Pierre and Miquelon to replace tea and in Canada it is used to put a head on small beers." (369-195)

- 1931 M. Grieve, A Modern Herbal, 460. "During the American War of Independence the leaves were much used instead of tea-leaves."(141-460, 116-66, 272-213)

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- 1931 M. Grieve, A Modern Herbal, 460. "They (the leaves) should be collected before flowering time, and the tops when the flowers begin to open. (141-460)
- 1931 M. Grieve, A Modern Herbal, 460. "The leaves (of *L. palustre*) are reputed to be more powerful than those of *L. latifolium*, and to have in addition some narcotic properties, being used in Germany to make beer more intoxicating." (141-460)
- 1972 Szczawinski & Hardy, Guide to Common Edible Plants of B.C., 23. "The leaves may be used as a tea substitute. The pungent aromatic taste is somewhat reduced if the leaves are steeped in one or two changes of boiling water. The addition of a few drops of lemon juice also improves the flavour." (8-23)
- 1972 Dan & Nancy Jason, Some Useful Wild Plants, 65. "Labrador Tea leaves are best picked before flowering, then dried, crushed, and steeped for tea. They have a pleasant odour, spicy taste, and slightly narcotic properties." (12-65)
- 1975 Dr. Triska, The Hamlyn Encyclopedia of Plants, 78. "During the middle ages Labrador tea was added to mead as a preservative. Towards the end of the 15th century it was used instead of hops in some areas." (119-78)
- 1975 Russ Mohny, Why Wild Edibles, 126. "A dry mint leaf added per cupful as it steeps, changes its character to a noval, fragrant delight. Another interesting flavour departure is to drop just a few broken fir needles into the pot." (36-126)
- 1977 Lee Allen Peterson, Edible Wild Plants, 208. "Tea. The dried leaves make a mild and agreeable tea when steeped for 5-10 minutes." (418-208)
- 1977 Berglund & Bolsby, Edible Wild Plants, 170. "Pick Labrador tea leaves while the plant is flowering. Spread them on a shallow pan and dry in the oven on low heat. When dry, crush the leaves and store in an airtight container.

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To make tea, put 2 to 3 tablespoons of crumbled leaves into a preheated pot, pour boiling water over, and steep for five minutes before serving. The taste is not unlike Oriental tea, and it has a Vitamin C content." (168-170)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 57.
"Labrador tea can be brewed in a number of ways. We think the best method is to place a generous handful of leaves in about 1 L (4 cups) of boiling water and allow them to simmer a short time, perhaps 5 minutes. The resulting tea has a yellowish-green tint and a sweet, flower-like fragrance reminiscent of jasmine tea. People who prefer it stronger leave it on the stove for several hours, but we do not recommend this procedure. A pleasant if somewhat weak beverage can be made simply by steeping the leaves in boiling water in a teapot, just as ordinary tea is made. You may find the flavour is enhanced by adding a few drops of lemon juice and a little honey. You can also use sugar and cream, but they tend to mask the delicate flavour." (98-57)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 55.
"All species of *L. palustre* are suitable for making tea." (98-55)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 56.
"Some people say that the leaves should be collected in the spring before the flowers appear; others declare that the best time for harvesting is in the fall or late winter, when the leaves are mature and reddish-brown in colour. The leaves can be used fresh or, for storage, can be dried in the sun, over a fire, or in an oven." (98-56)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 56.
"In our experience, Labrador tea is as safe as regular tea or coffee, but it is said by some to produce drowsiness. We have never experienced such an effect, which may be due to physiological sensitivity in certain individuals or may in some cases be purely psychological. In any case, we recommend that you drink the tea only in moderate quantities and in low concentrations; do not boil the leaves for longer than 10 minutes." (98-56)

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- 1982 Encyclopaedia Britannica, Volume 6, 955. "Humans can be poisoned by chewing on leaves and twigs or by sucking nectar from the flowers of these plants. Poisoned honey has been reported in areas in which bees visit large Rhododendron or laurel (Kalmia) stands, but the honey is so bitter that very little of it can be eaten." (EB 6-955)

NATIVE FOOD USES:

- 1926-27 Frances Densmore, Uses of Plants by the CHIPPEWA Indians, 317. "It is interesting to note that the Chippewa did not commonly drink water encountered in traveling but boiled it, making some of the following beverages from vegetable substances that were easily available. Fresh leaves were tied in a packet with a thin strip of basswood bark before being put in the water. Dried leaves could be used if fresh leaves were not available. The quantity was usually about a heaping handful to a quart of water. Beverages were usually sweetened with maple sugar and drunk while hot..Leaves of Labrador tea..354." (369-196)

- 1945 Erna Gunther, Ethnobotany of Western Washington, 43. "The leaves are steeped and drunk as a beverage tea by the Makah." (46-43)

- 1932 Huron H. Smith, Ethnobotany of the OJIBWE, 401. "The Flambeau Ojibwe used the tender leaves of this plant as a beverage tea, and will even eat the leaves in the tea. It is well known tea to many northern and Canadian Indians." (369-196)

- 1970 Adam Szczawinski, The Heather Family of B.C., 89. "This tea was well known during the revolutionary war in the United States, and Still is widely used by Ainu and Eskimos and other inhabitants of the Arctic." (61-89)

- 1971 Medical Services, Indian Food, 51. "INDIAN TEA: (Florence Burton, Kincolith) The Nishga people call their tea "tame-lock-lock-ock" which means "a place where there are only small branches around". This is a description of the locations that tea plants are usually found. The plant called Labrador tea

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or sometimes Hudson's Bay tea, is about ten inches high with small leaves that roll under at the edges. The leaves are picked from October to April, before the plant flowers. They are dried for a few days, then stored in a plastic bag for the winter. Prepare the tea with the following recipe:

1. In a 2 quart porcelain or stainless steel saucepan place 2 handfuls of dry tea leaves.
2. Fill the saucepan with cold water.
3. Simmer the tea on the stove for two hours then keep it hot on the back of the stove for the rest of the day.
4. The tea is served hot any time of the day.

Indian tea has a sprucey flavour which may be improved with the addition of sugar." (160-51)

- 1973 Turner & Bell, The Ethnobotany of the Southern Kwakiutl Indians, 283. "The KWAKIUTL, like all Northwest Coast groups, used the leaves of this bog plant for tea. About a handful of the leaves per quart of boiling water was used (Cranmer, 1969; Johnson, 1969). The leaves apparently have narcotic properties, but it is doubtful if the Indians were aware of this (Szczawinski & Hardy, 1962)." (150-283)

- 1974 John Lust, The Herb Book, 523. "Labrador or Swamp Tea (*Ledum Latifolium*). Originally used by American Indians and adopted by frontiersmen and pioneers. Fragrant, soothing, rose-colored tea with mellow flavor." (195-523)

- 1978 Nancy Turner, Food Plants of B.C. Indians, Part 2, 145. "As the various names of this shrub imply, the leaves were a common source of tea, not only in British Columbia, but across Canada. They were picked from August to April, depending on the traditions of the groups using them. Some, such as the OKANAGAN, picked the entire branch tips, twigs and all, whereas others used only the leaves. The SLAVE apparently used the flowers as well as, or instead of, the leaves, according to J.J. Honigmann (1946). Various recipes were used in different parts of the Province. A handful of fresh or dried leaves

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simmered in a quart of water for 15 minutes or more yields a pleasant drink, although some people like it stronger. It has a pleasant, aromatic fragrance and taste and is good with or without sugar. The leaves can also be added as a flavouring to regular tea or mint tea." (103-145)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 56. "Some native peoples in western Canada used to steam the leaves in underground pits until they turned dark brown. They placed the rhizomes of the licorice fern (*Polypodium glycyrrhiza* D.C. Eat.) in with the leaves to flavour them." (98-56)

- 1981 Arnason, Hebda, & Johns, Use of Plants for Food and Medicine by Native Peoples of Eastern Canada, 2231. "*Ledum groenlandicum* Oeder.: (435-2231)

| CULTURE | NATIVE NAME | USE | REFERENCES |
|-------------------|---------------|--|---------------------------|
| Ojibwa | muckig'obug | Leaves, fresh or dried, tied with basswood bark and boiled for tea, tea leaves eaten | Densmore 1928 |
| Ojibwa | waboskiki'bug | Leaves used for tea | Smith 1932 |
| Ojibwa | -- | Leaves used for tea | Stowe 1940 |
| Algonquin & Cree | -- | Leaves used for tea | Black 1980 |
| Micmac & Malecite | | Leaves used for tea | Speck & Dexter 1951, 1952 |
| Montagnais | milewebu'q | Leaves used for tea | Speck 1917 |
| Cree | muskeg musrig | Leaves used for tea | Breadsley 1941 |

- 1984 Nuxalk, Nuxalk Food and Nutrition Handbook, 43. "After picking the leaves, store them in pillow cases or other cloth bags in a dry place. The cloth lets in air but keeps the leaves dry. To make pu7yaas, simmer a handful of leaves in a pot of water. At first, try simmering the leaves 15 to 30 minutes. You will decide how strong you like pu7yaas. The longer you simmer

the leaves the stronger the tea will be." (331-43)

- 1985 Frances Graham, Plant Lore of an Alaskan Island, 38. "The leaves and branches, high in vitamin C, are brewed in "chai" (tea)." (339-38)

- 1985 Frances Graham, Plant Lore of an Alaskan Island, 38. "Native Alaskans made a meat spice and a marinade - for game with a strong wild taste - from this plant. The meat would be soaked in tea made from the boiled plant, or the meat, stems, and leaves would be boiled together."

NOTE: Historical writings show that the pilgrims could have adopted the traditional Indian use of this plant and began brewing strong, flavourful tea that they judged to be nearly as good as the oriental varieties they had in England. The dried leaves do not much resemble tea leaves, but the flavour certainly does.

MEDICINE:

- 1985 Frances Graham, Plant Lore of an Alaskan Island, 38. "CAUTION: An effective laxative in large doses. At first, drink tea brewed from this plant in small amounts." (339-38)

EUROPEAN MEDICINAL USES:

- 1743 James Isham, Observations on Hudson's Bay and notes and observations on a book entitled "A Voyage to Hudson Bay in the Dobbs Galley 1746-7", 134. "Plants of Physicky Herb's. Several are growing in these parts one of Which they styl (wishakapucka) which is us'd as a perge or fomentation, but the English in these parts makes a Drink of itt, going by the Name of wishakapucka tea, being of a fine flavour, and Reckon'd Very wholesome, - I was troubled Very much my Self with a Nervious Disorder, but by Constant Drinking 1 pint made strong for three months Entirely cur'd me..217." (369-195)

- 1795 Samuel Hearne, Journey From Prince of Wale's Fort in Hudson's Bay, to the Northern Ocean in the Years 1769, 1770, 1771 and 1772. "The Wish-a-ca-pucca, which grows in most parts of this country, is said by some Authors to have great medical virtues, applied, either inwardly as an alterative, or outwardly dried and pulverised, to old sores and gangrenes. The truth of this I much doubt, and could never think it had the least medical quality." (305-87)

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- 1823 J. McGregor, Historical and Descriptive Sketches of the Maritime Colonies of British America, 23. "The Indian tea or Labrador shrub, is grateful to the taste and considered an effectual antiscorbutic." (369-195)
- 1852 Sir John Richardson, Arctic Searching Expedition. "The leaves of the *Ledum palustre* are also chewed and applied to burns, which are said to heal rapidly under its influence. The cake of chewed leaves is left adhering to the sore until it falls off." (305-86)
- 1892 Charles F. Millspaugh, American Medicinal Plants, an Illustrated and Descriptive Guide to Plants Indigenous to and Naturalized in the United States Which are Used in Medicine, 100. "Marsh Tea used in dysentery, diarrhoea, tertian ague, and in some places to render beer heady, though it is said to bring on delerium." (369-196)
- 1931 M. Grieve, A Modern Herbal, 460. "Medicinal Action and Uses: The leaves are tonic, diaphoretic, and pectoral, having a pleasant odour and rather spicy taste. They yield their virtues to hot water or to alcohol. It is useful in coughs, dyspepsia, and irritation of the membranes of the chest. An infusion has been used to soothe irritation in infectious, feverish eruptions, in dysentery, leprosy, itch, etc. The strong decoction, as a wash, will kill lice. The leaves are also used in malignant and inflamed sore throat." (141-460)
- 1945 Erna Gunther, Ethnobotany of Western Washington, 43. "The U.S. dispensatory mention labrador tea as a tonic, expectorant (facilitates discharges of mucus), and pectoral (good for diseases of the chest or lungs)." (46-43)
- 1969 Alma Hutchens, Indian Herbage of North America, 172. "Pectoral, Expectorant, Diuretic. Very useful in coughs, colds, bronchial and pulmonary affections. Sometimes used as a table tea. For internal use the infusion of 1 teaspoonful of dried leaves to 1 cup of boiling water in winglassful doses as needed for the control of the above mentioned. Externally: A strong decoction has been recommended for external use as a remedy for itching and exanthematous (eruptions accompanied by fever) skin disease." (215-172)
- 1972 Dan & Nancy Jason, Some Useful Wild Plants, 65. "Labrador Tea is said to be good for sore throat or chest and for a cough." (12-65)
- 1975 Dr. Triska, The Hamlyn Encyclopedia of Plants, 78. "Both the flowers and leaves of this plant were

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used in medicine and as household remedies against fever, coughs and bronchitis." (119-78)

- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 57. "Considered especially good for colds, sorethroats and headaches." (98-57)

- 1978 Joy Spurr, Wild Shrubs, 66. "Ancient herbals mention that the leaves were used as a tonic, diaphoretic, and pectoral." (116-66)

- 1978 Jackson & Prine, Wild Plants of Central North America For Food And Medicine, 35. "Medicinally, it is a stimulant, pectoral, expectorant, and diuretic, useful in coughs, colds, bronchial and pulmonary conditions. For internal use, the tea infused, is taken in wineglassful doses, several times daily. A strong decoction is recommended for external use as a remedy for itching skin conditions." (109-35)

- 1978 Bradford Angier, Field Guide to Medicinal Wild Plants, 163. "Brewed like store tea, Labrador tea is pleasingly antiscorbutic and stimulating. It was used by the Indians and settlers as a tonic supposed to purify the blood. A few leaves, chewed raw, act on many as a quick stimulant. Large quantities are said to be cathartic. Drunk in more moderate amounts, however, it was supposed to halt chest troubles and ward off chills. It was also employed to treat wounds." (201-163)

- 1979 David C. Meyer, The Herbalist, 69. "Ledum Latifolium: Pectoral and stimulant and sometimes used as a table tea." (124-69)

- 1983 Frantisek Stary, Poisonous Plants, 124. "People are known to have been poisoned but, in animals, poisoning has been reported only in goats. Poisoning has ended in death for pregnant women who tried to abort the foetus by taking large doses of the extract from Wild Rosemary. Medicinal therapy used mainly galenical preparations from the crude drug (the dried flowering twigs or leaves): tinctures, infusions and, for external application, ointments. Ailments treated included rheumatic pains, whooping cough and inflammation of the upper respiratory passages. In folk medicine, Wild Rosemary is used externally to treat wounds (the essential oil has antiseptic properties), persistent eczemas and to destroy undesirable parasites." (332-124);

- 1985 Frances Graham, Plant Lore of an Alaskan Island, 38. "Prepare a tea by boiling fresh or dried leaves and branches until the water turns dark. Drink this tea for anemia, colds and tuberculosis. It can also be used for arthritis, dizziness, stomach problems, heartburn and hangover. This tea has been known locally as a remedy for chest ailments and tuberculosis." (339-38)

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- 1987 Eleanor G. Viereck, Alaska's Wilderness Medicines, 44. "Labrador tea is common, widespread, and always available in northern climates where non-evergreen leaves are obtainable only during a short growing season. The plant also has a pleasant aromatic scent, lending a spicy fragrance to a tea. For these reasons it is perhaps no wonder this plant is mentioned in such a large number of ethnobotanical reports and herbal compendia. A small amount added to black tea does add a spicy aroma. It is used in this way on Nelson Island (Ager and Ager) or mixed with willow leaf tea (Lantis). Several authors (Tobe, de Laguna, Grieve) indicate that Labrador Tea is good for colds. The leaf tea is cathartic if it is strong enough to be orange-colored. The ascorbic acid content is second only to rosehips (Lantis)." (407-44)

NATIVE MEDICINAL USES:

- 1748 Henry Ellis A Voyage to Hudson's Bay. "The Plant, by the Indians called 'Wizekapukka', is used by them, and the English as a Medicine, in nervous and scorbutick Disorders; its most apparent and immediate Effect, is promoting Digestion, and causing a keen Appetite. To this Plant, the Surgeons residing at the Factories, ascribe all the Qualities of Rhubarb; it is a strong Aromatick, and tastes pleasantly enough when drank as a Tea, which is the common Way of using it."(131-Lab Tea)

- 1749 James Isham, Observations on Hudson's Bay and notes and observations on a book entitled 'A Voyage to Hudson Bay in the Dobbs Galley 1746-7'. "And here I can but Observe that the plant made strong, twice a Day, has found a Great Deal of Benefitt by itt. But as to the Indians using itt I must conterdict the Author (Henry Ellis), for to my certain Knowledge, their is none of the Indians usd. it in any shape; so fair from using itt I have offer'd some to them when have Refus'd itt with a Great Dislike; Shaggamittee also they do not use when they are indispose'd, any more then at another time, being as common a Drink to them as small Beer is to us &c." (Isham seems to imply that the Indians used labrador tea as a purge, so they would not want to drink it with him, or used it as a fomentation.) (369-195)

- 1784-1812 David Thompson, Travels in Western North America. "In the night we were both awakened by a violent dysentery...I filled the pewter basin with Labrador tea, and by means of hot stones made a strong infusion, (and) drank it as hot as I could, which very much relieved me." (131-Lab Tea)

- 1812 Rush Diary Dec. 15th. 303. Records that Francois Andre' Michaux, who had just returned from a trip to northern parts of Quebec told him that labrador tea was a popular beverage among the Indians of that region, but not the French, who from their diet of salt meat, suffered from scorbutic complaints. (Vogel 1963;

65.) (369-195, 146-65)

- 1884 E.M. Holmes, Notes on recent donations to the Museum of the Pharmaceutical Society London, CREE Hudson Bay 303: "Karkar-pukwa or Country Tea (*Ledum latifolium* L.). The fresh leaves are chewed and applied to wounds. The flowering tops are used as tea and should be gathered when in full bloom. The dried flowers have an odour between that of tansy and chamomile...By homoeopaths it is used as a remedy for tender feet, especially when associated with rheumatism, and the tincture is highly esteemed for relieving the pain of the sting of insects." (369-195)

- 1915 Frank G. Speck, Medicine Practices of the Northeastern Algonquians, MONTAGNAIS 313. "The leaves and twigs of Labrador Tea are steeped and drunk to purify the blood and taken in cases of chills." (369-196, 146-65)

- 1915 Frank G. Speck, Medicine Practices of the Northeastern Algonquians, MICMAC-MONTAGNAIS Newfoundland 316. "The leaves are steeped to make a tea which has a beneficial effect on the system. It is the common native beverage...317. The leaves in a decoction drunk as a tea as a diuretic." (369-196)

- 1926-27 Frances Densmore, Uses of Plants by the CHIPPEWA, 317. "The roots of Labrador tea and wild cherry dried, powdered and mixed but not cooked. Applied to a severe burn or ulcer or any condition in which the flesh is exposed. After this powder has been on the flesh for a time it becomes damp. It is then removed, the sore washed, and a fresh application made." (369-196, 211-355)

- 1932 Huron H. Smith, Potawatomi, 57. "Wesawabaguk meaning yellow leaf. Mrs Spoon used the leaves in one of her medicinal combinations, but did not say what ailment it was intended to correct...The U.S. Nat. Dispensatory (1916) records that the leaves in full doses cause headache, vertigo, restlessness and a peculiar delirium. The infusion of the leaves augments a secretion of saliva, of perspiration, urine, and dilates the pupil of the eye. It is a remedy rarely employed now except in cases of chronic bronchitis. A decoction of the leaves has been used as a vermin exterminator, while fresh twigs have been placed among woollen clothes to keep moths from them...99. The Forest Potawatomi use the leaves of labrador tea to make a beverage....120. Also as a brown dye material." (369-196)

- 1945 Erna Gunther, Ethnobotany of Western Washington, 43. "A stronger infusion is used by the MAKAH as a blood purifier. The QUINAULT use the same drink for rheumatism." (46-43)

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- 1955 J. Auguste Mockle, Contributions a l'etude des plantes medicinales du Canada, Quebec transl. 96. "The tea of the leaves is digestive and pectoral. The pulverised leaves are taken for a headache. The Indian women make a decoction which they take three times a day when delivery is near. The leaves contain 3% tannins, arbutoside and ursolic acid." (369-196)
- 1970 Virgil J. Vogel, American Indian Medicine, 65. "Frank Speck reported Ledum tea in use by the Montagnais to "purify the blood," and for chills. Henry David Thoreau reported its use, as well as hemlock leaves, by the Penobscots of Maine, in 'The Maine Woods,' 125. Ledum may have helped fortify the northern Indians against scurvy in winter; Ledum palustre L., according to the 1950 'Dispensatory of the United States,' contains the glycoside ericolin, tannin, valeric acid, and other substances." (146-65)
- 1974 John Lust, The Herb Book, 272. "Ledum palustre: Astringent, diaphoretic, diuretic, expectorant. Used externally, marsh tea makes a good remedy for all kinds of skin problems. Internally, it stimulates the nerves and the stomach. Because of its diaphoretic and diuretic properties, an infusion or cold extract can be used for rheumatism, gout, and arthritis. A syrup made from marsh tea is sometimes used for coughs and hoarseness. CAUTION: Excessive doses can cause poisoning." (195-262)
- 1975 Catharine McClellan, My Old People Say, Part I, 227. "TLINGIT: These hairy leaves are gathered at any time of the year and kept in a sack. They may be used either fresh or dry. People who have colds drink large quantities of tea made from the leaves, although they usually add a little bit of "store" tea "so it will have colour." Some broken tops of young spruce trees stirred into it make an especially effective brew. (296-227)
- 1978 Nancy Turner, Food Plants of B.C. Indians, Part 2, 147. "Labrador tea has many medicinal attributes as well. The SHUSWAP believe that drinking it in large quantities counteracts poison ivy. Dogs were sometimes given lukewarm drinks of it as a tonic. It was also used as a heart medicine or for indigestion, and was given to a mother after childbirth to ease the pain and relax her. The LILLOOET took it for diarrhoea." (103-147)
- 1980 Gitksan Elders, Gathering What The Great Nature Provided, 95. "GITKSAN: Hudson's Bay or Labrador tea (sk'an dax do'oxwhl) is made from the leaves of a shrub that grows in swampy places. The leaves, either dried or green, are placed in water and boiled. This water is poured off and replaced by fresh water which is also boiled and the resulting liquid is drunk as a

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beverage. It is also used as a tonic. In fact, one of our most knowledgeable elders believes that it was used only as a tonic before the white people arrived." (133-95)

- 1981 Arnason, Hebda, & Johns, Use of Plants for Food and Medicine by Native Peoples of Eastern Canada, 2269. "Ledum groenlandicum Oeder. (435-2269):

| GROUP | NATIVE NAME | USES | REFERENCES |
|----------------------|--------------------------------|--|---------------------------------|
| Ojibwa (Chippewa) | muckig'obug | Skin ulcer: root dried, powdered poultice, used with Prunus serotina | Densmore 1974 |
| Algonquin | -- | Tonic, colds: tea, leaves | Black 1980 |
| Algonquin | -- | Before Childbirth: tea, leaves three times daily; headache: snuff leaves | Marie-Victorin 1919 |
| Montagnais | mi'lawebu'q | Purify blood, chills: tea, leaves twigs | Speck 1917 |
| Abanaki | -- | Nasal congestion: snuff dried powdered leaves, sassafras bark | Rousseau 1947 |
| Maritime | -- | Asthma, cold, scurvy: tea, leaves used | Chandler et al. |
| Micmac | -- | Diuretic: leaves, tea | Speck 1917 |
| Malecite Cree | pusipga-'skil muskeg musrig | Kidney trouble: leaves used Burns, scalds, as emetic: tea, powdered leaves, poultice | Mechling 1959 Beardsley 1941 |
| Cree | -- | Headaches; tea | Black 1980 |
| Cree | karkar pukwa | Wounds: chew leaves, apply; tea, flowering tops | Holmes 1884 |

- 1982 Nancy Turner, Food Plants of B.C. Indian's, Part I, 144. "The Coastal Indians, especially the HAIDA, drank the tea as a medicine for colds and sore throats. 'Ledum groenlandicum' itself, while not harmful as a tea, is said by some to produce drowsiness or slight dizziness but Indian people have never noted such an

effect." (44-144)

- 1982 Nancy Turner, Food Plants of B.C. Indian's, Part I, 144. "Various methods of collection and preparation of the leaves were used. For example, the HAIDA picked the young leaves in spring, before the plants flowered, although leaves could be harvested in summer from younger plants. The BELLA COOLA and MAINLAND COMOX, on the other hand, gathered the old reddish-brown leaves in late winter, just before the new leaves sprouted. The leaves were used fresh, or dried in the sun. The COMOX prepared them in a unique manner by steaming them in a shallow pit, and layers interspersed with licorice fern rhizomes, to flavour the tea. Water was added from time to time, through a hollow tube at the top, and the leaves were allowed to cook until they were dark brown. They were then placed in a plot of water and boiled to taste. The HAIDA preferred a dark coloured, strong tasting tea and often left a pot of it boiling on the stove for several days, adding more water as the liquid was depleted through use and evaporation. The present Indian people use plenty of sugar in it." (44-144)

- 1983 G. Deagle HAIDA 22. "Hudson's Bay Tea (*Ledum groenlandicum*) and Swamp Laurel (*Kalmia polifolia*): These two common plants are closely associated in any of the muskeg areas of the Queen Charlotte lowlands near Masset. Most Masset Haida describe both plants by the name "xil kagann" although they carefully described the difference between the *Ledum* variety (leaves hanging down) and *Kalmia* species (leaves pointing up). Collection of the leathery leaves which grow on these low shrubs is easily accomplished. The leaves are allowed to air dry and are stored in jars or plastic bags today. Preparation for use is identical with both these plants and involves steeping the leaves in a pot of simmering rainwater, to make a tea. One woman stated that there was always a pot on the stove, "near the back", in her childhood home.

Hudson's Bay tea is often used alone as a beverage. Some Haida people proudly referred to it as Indian tea. The tea is also used to treat influenza ("7il"), or the common cold ("tada"). The addition of swamp laurel leaves to the tea was reserved for clearly medicinal purposes. One woman stated that exactly forty branches with leaves, should be boiled in one gallon of rainwater all day, 'until the pitch shows up on the top of the water'. She said this medicine was good for 'fire sickness' - a kind of V.D. or gonorrhoea." (220-22)

RUSSIAN MEDICINAL USES:

- 1969 Alma Hutchens, Indian Herbage of North America, 172. "RUSSIAN: The young leaves and twigs are collected in August and September. Care must be observed when drying as one of the various volatile ether oils in contains is 7.5% *Ledum*; the strong aroma from which could seriously affect the heart if one is in too

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close confinement during this plants drying stage. (Moscow University, 1963). Medical literature gives full credit to Folk Medicine though it is not fully experimented clinically. Leaves and twigs are officially collected for state institutes and sold to pharmacies and dispensaries. (Atlas, Moscow, 1962) USES: Accommodates Coughs, Bronchitis, Bronchial asthma, Tubercular lungs, Stomach sickness, Headache, Kidney and weak Bladder, Rickets, Diarrhoea, Rheumatism (internally, and as a liniment or ointment). Pains in the chest, Scrofula, Scaby dandruff (blanketed on the scalp, or in patches). Additional: fertility, infections, tightness of breath (Bello-Russ. Academy

of Science). Can cure Bronchitis in two weeks. Recommended as a tea decoction of 1 oz. tea to 2 pints boiling water; drink as required, a mouthful at a time (Medicine, Moscow, 1965)." (215-173)

HOMOEOPATHIC USES:

- 1969 Alma Hutchens, Indian Herbalogy of North America, 173. "Externally: Russian Homoeopaths boil the flowers in fresh butter making an ointment for skin diseases, bruises, wounds, bleeding and rheumatism (Moscow University, 1963)." (215-173)

- 1969 Alma Hutchens, Indian Herbalogy of North America, 172. "HOMOEOPATHIC CLINICAL: Tincture of dried small twigs and leaves collected after flowering begins; tincture of whole fresh plant - Ascites, Asthma, Bites, Black eye, Boils, Bruises, Deafness, Ear (inflammation of), Eczema, Erythema nodosum, Face (pimples on), Feet (pains in, tender), Gout, Haemoptysis, Hands (pains in), Intoxication, Joints (affections of, craking in Menier's disease), Pediculosis, Prickly heat, Punctured wounds, Rheumatism, Skin (eruption on), Stings, Tetanus, Tuberculosis, Varicella, Whitlow, Wounds." (215-172)

PREPARATION & DOSAGE:

- 1974 John Lust, The Herb Book, 262. "Infusion: Steep 1 tbsp. dried leaves or herb in 1/2 cup water. Take 1/2 cup a day. Cold Extract: Soak 1 tbsp. dried leaves or herb in 1/2 cup cold water for 10 hours. Take 1/2 cup a day." (195-262)

- 1987 Eleanor G. Viereck, Alaska's Wilderness Medicines, 44. "The leaves and occasionally the twigs and flowers are used to make tea. The method of gathering and preparing the leaves varies greatly. I usually use them fresh and prefer the older leaves, but some herbalists prefer the young leaves and dry them. Be sure to dry them slowly and carefully so they do not turn black. (407-44)

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MATERIAL:

INSECTICIDE:

- 1874 Can. Pharm. J. 68. "A new insecticide to replace pyrethrum 'Ledum palustre' said to destroy fleas, bed bugs, lice, beetles and their larvae and many other insects. An alcoholic tincture of the plant to which a little glycerine is added is said to drive away mosquitoes from any surface to which it has been applied. It is also said to be a remedy for mosquito bites. The fresh plant is best for all these purposes but the dry is also effective. Try the powder of the plants for the potato beetle." (369-195)
- 1931 M. Grieve, A Modern Herbal, 460. "Strewed among clothes, the leaves will keep away moths, and in Lapland the branches are placed among grain to keep away mice." (141-460)
- 1962 Adam Szczawinski, The Heather Family of B.C., 89. "..it was laid among corn in barns to drive away mice, kept in bedrooms to disperse fleas and in closets to keep away moths." (61-89, 116-66, 98-57, 141-460).
- 1972 Francis Perry, Flowers of the World, 107. "The leaves have been used as a tea substitute and can be employed to produce an aromatic oil with medicinal and insect-repellent properties." (244-107)
- 1975 Dr. Triska, The Hamlyn Encyclopedia of Plants, 78. "The dried leaves were used against insects." (119-107)
- 1978 Turner & Szczawinski, Wild Coffee & Tea Substitutes of Canada #2, 57. "Because of its strong scent, Europeans used the leaves for keeping rodents out of corn cribs and repelling fleas, clothes moths, and other household insects." (98-57)

TANNING:

- 1931 M. Grieve, A Modern Herbal, 460. "In Russia the leaves are used for tanning leather." (141-460)

SMOKING MIXTURE:

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- 1935 Diamond Jenness, The Ojibwa Indians of Parry Island, Their Social and Religious Life, 114. "When tobacco was scarce the Indians substituted labrador tea." (369-196)

- 1978 Jackson & Prine, Wild Plants of Central North America For Food And Medicine, 35. "The dried leaves are used as an ingredient in herbal smoking mixtures." (109-35)

DYEING:

- 1945 Jacques Rousseau, La Botanique Canadienne a L'epoque de Jacques Cartier, Quebec transl. 96. "Used to dye wool brown, known generally throughout the Province as Labrador tea, rarely as wooly tea." (369-196)

- 1977 Judy McGrath, Dyes From Lichens & Plants, 105. "DYEING: (1) Leaves with alum-treated wool produce a beautiful bright yellow-gold. (2) Leaves with untreated wool produce a soft peach-gold. (3) Branches with alum-treated wool produce a yellow. (4) Branches with untreated wool give a yellow-beige. (5) An afterbath of copper on the above colors gives a soft green, chrome gives a golden-brown, and tin gives orange." (111-105)

CULTIVATION:

- 1972 Francis Perry, Flowers of the World, 107. "When any of these plants are used in the garden they must have cool conditions and lime-free soil. Plenty of peat should be worked into the planting sites and in some cases light shade provided." (244-107)

HISTORY/BELIEFS:

- 1857 Report from the Select Committee...Westminster, England 373. "It was formerly imported into this country by the Hudson's Bay Company under the name of Weesukapuka." (369-195)

- 1975 Dr. Triska, The Hamlyn Encyclopedia of Plants, 78. "Ledum palustre L.: Since this is a very rare plant it is protected in many countries. It grows in bogs in central and northern Europe, Central and Northern Asia as far as Japan." (119-78)

- 1977 Berglund & Bolsby, Edible Wild Plants, 170. "During his arctic expedition of 1819-1822, the

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explorer, Sir John Franklin, used the leaves of Labrador tea's arctic cousin, the *Ledum decumbens* (a dwarfed linear arctic species)." (168-170)

SPIRITUAL BELIEFS:

- 1987 Eleanor G. Viereck, *Alaska's Wilderness Medicines*, 44. "There are ceremonial uses for Labrador tea; one is to turn a stalk and throw it out the door if a child is ill or if you want to get rid of ghosts (Oswalt).

MINING TECHNIQUES:

- 1976 Lewis Clark, *Wild Flowers of the Pacific Northwest*, 380. "Professors Warren and Delavault, by atomic absorption of ashed roots and stems of certain plants, have been able to detect underlying ore-bodies. This they have found that '*ledum groenlandicum*' growing near known zinc-copper ore-bodies shows significantly high concentrations for the elements." (1-380)

SPECIAL CHARACTERISTICS:

- 1975 Dr. Triska, *The Hamlyn Encyclopedia of Plants*, 78. "*Ledum* has a strong, overpowering smell and this is due to the activity of small glands on the flowerstalks." (119-78)

- 1976 C.P. Lyons, *Trees, Shrubs & Flowers to Know in B.C.*, 73. "The 'wool' and the rolled-over edges of the evergreen, leathery leaves are nature's way of preventing the loss of water from the underside of the leaves. Although Labrador tea usually grows in a bog the water is so cold that the plant may be unable to absorb any and so adopts a highly specialized leaf to conserve it. (3-73)

- 1978 Joy Spurr, *Wild Shrubs*, 66. "On either cold and dry or hot and dry days, the margins of the leaves tend to recurve to protect the leaves from too much moisture loss. During rainy days, the leaves flatten and expose their surfaces so that the maximum number of cells can absorb moisture into the leaf." (116-66)

NOMENCLATURE:

- 1962 A.F. Szczawinski, *The Heather Family*, 81. "The name of this genus comes from the Greek word '*ledon*', the ancient name for the plant now known as '*Cistus ledon*'." (61-81)

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- 1978 Joy Spurr, Wild Shrubs, 66. "The name is from the Greek 'Ledon' meaning 'mastic'. Groenlandicum refers to 'Greenland'." (116-66)
- 1973 Hitchcock & Cronquist, Flora of the Pacific Northwest, 345. "German 'ledon', mastic, a name used by the Greeks for another genus, 'Cistis', from which an aromatic resin was obtained." (287-345)

AGE:

- 1982 Encyclopaedia Britannica, Volume 6, 956. "Fossil records of ericads are not numerous, especially considering the number of species in the order. All have been found in deposits of the Tertiary Period (2,500,000 to 65,000,000 years ago) and mostly from the Oligocene Epoch (26,000,000 to 38,000,000 years ago) and the Miocene Epoch (about 7,000,000 to 26,000,000 years ago). (EB 6-956)

STORY QUOTES:

ILLUSRATIONS:

- Excellant B/W + distribution map of L. groenlandicum (342-718)
- Excellant B/W drawings of L. decumbens (61-82)
- Good B/W plus distribution Maps for L. decumbens (342-717)
- Excellant B/W drawings of L. glandulosum (61-85)
- Excellant B/W drawings of L. groenlandicum (61-87)
- Good B/W pictures (369-195)
- Excellant B/W picture (206-124)
- Excellant B/W picture (98-55)
- The best B/W pictures (305-85)
- Excellant colour print (131-Lab Tea)
- Excellant colour print (332-125), + B/W print of flower, seeds.
- Excellant B/W picture (116-67)

The information in these articles is primarily for reference and

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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 allergic reaction in some people.

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

BOOKS NOT CHECKED OFF: Finished to #435.

LATIN NAME: *Ledum groenlandicum*, Oeder (61-86, 287-345)