

Ericaceae Heath family

Ledum

Labrador-tea

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Other common names. trapper's-tea, trapper's tea

Growth habit, occurrence and use. The genus *Ledum* Labrador-tea comprises 3 evergreen shrubs with a wide distribution (table 1). Plants range from 0.3 to 0.8 m tall and are much-branched. The leaves are leathery, lance-shaped, and hairy on the lower surface and have a characteristic spicy fragrance. Labrador-tea produces seeds vigorously; in its natural environment it can reproduce either from seeds (McGraw and Shaver 1982) or vegetatively (Sumner 1964). The below-ground system develops as result of layering by the above-ground shoots, and as much as 5 times more biomass has been documented below-ground than above, with clones covering 5 to 10 m² (Calmes and Zasada 1982). Marsh Labrador-tea is an alternate host for spruce needle rust *Chrysomyxa ledicola* Lagerh. (Ziller 1974). Sumner (1964) gives a detailed description of Labrador-tea morphology in interior Alaska. Leaves of marsh Labrador-tea can be boiled to make an aromatic tea; excessive doses can cause drowsiness or intestinal disturbance. Labrador-tea produces a sesquiterpene, germacrone, that makes it highly unpalatable to snowshoe hares (Reichardt and others 1990). Western Labrador-tea contains toxic alkaloids known to be poisonous to livestock (MacKinnon and others 1992).

Flowering and fruiting. Flower buds are initiated in the summer months at the tips of new shoots. They overwinter and flower the following spring, in late May and early June (Reader 1982). Flowers are white, with protruding stamens; they occur in numerous umbel-like clusters. Fruits occur as drooping clusters of dry capsules. A large number of seeds are produced per flower. Sumner (1964) found a range of 34 to 181 seeds per fruit in her study of marsh Labrador-tea in interior Alaska. Extensive flowering is common. Seeds are small (bog Labrador-tea, 1.8 to 3.0 mm by 0.2 to 0.3 mm; marsh Labrador-tea, 1.4 to 2.0 mm by 0.2 to 0.3 mm) (Karlin and Bliss 1983). Seedcoats are golden and translucent, with a loose, elongated testa that aids wind dispersal (Densmore 1997). Calmes and Zasada (1982) found that only 45% of bog Labrador-tea seeds were filled.

Extraction, cleaning, and storage of seeds. Seed capsules open as they dry, readily releasing seeds. Empty capsules can be separated from seed with a fine-mesh sieve. Most seed viability is lost within 1 year of collection. When stored for 22 months at 4 °C, germination dropped from 58 to 16% (Karlin and Bliss 1983).

Pre-germination treatments. Labrador-tea does not require cold stratification for germination, but most data suggest that stratification improves germination. In a study of marsh Labrador-tea, seeds exhibited shallow dormancy (Calmes and Zasada 1982); a 30-day cold stratification period increased the rate and percentage of germination. Densmore (1997) achieved

100% germination of marsh Labrador-tea at 20 °C and with 20 hour day-length following cold stratification. In another study, marsh Labrador-tea germinated best without any stratification (Karlin and Bliss 1983).

Germination tests. Seeds can be sprinkled on the surface of a moist substrate and covered with clear plastic film. Light is required for germination (Calmes and Zasada 1982; Karlin and Bliss 1983); germination is enhanced with longer day-lengths (Densmore 1997). In addition to light, optimal germination conditions include a continually moist, somewhat acidic substrate (pH 5.5) and mean daily temperatures ≥ 17 °C (Karlin and Bliss 1983). Treating seeds with gibberellic acid greatly increased germination under a variety of environmental conditions (Junttila 1972).

Nursery practice. Marsh Labrador-tea has been successfully propagated from seeds for horticultural purposes. The seeds should be sown thinly in boxes of pure, finely sifted peat moss, and then covered with a fine dusting of peat moss (Sheat 1948). Cuttings taken from mature plants in mid-December rooted well (Dirr and Heuser 1987), but below-ground stem cuttings produced few new shoots (Calmes and Zasada 1982). Half-mature side shoots can be pulled off and rooted in a mixture of peat moss, loam, and sand (Sheat 1948).

Seedling care. Labrador-tea seedlings are fragile and slow-growing. After 4 months of growth in a greenhouse, seedlings of bog Labrador-tea were only a few millimeters tall (Sumner 1964). Though seeds can germinate in water-saturated substrates, seedling survival and establishment are enhanced with better drainage.

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Table 1C *Ledum*, Labrador-tea: nomenclature and occurrence

Scientific name & synonym	Common name	Occurrence
<i>L. glandulosum</i> Nutt.	western Labrador-tea	N Europe
<i>L. palustre</i> L. ssp. <i>decumbens</i> (Ait.) Hulten <i>L. palustris</i> ssp. <i>groenlandicum</i> (Oeder) Hulten	marsh Labrador-tea	SE & interior Alaska; Canada E to Newfoundland, S to New Jersey, Ohio, Minnesota, & Washington
<i>L. groenlandicum</i> Oeder. <i>L. decumbens</i> (Ait.) Lodd ex Steud.	bog labrador-tea	Alaska & E through Canada to Greenland; S to Labrador & Hudson Bay; also N Europe & Asia

Sources: Juntala (1972), Viereck and Little (1972).