Plant Description

Perennial herb with creeping rootstock. Upright stems 10 to 30 cm tall, unbranched, prickly. Stems bear 1 to 3 leaves, long petioled, circular to reniform and shallowly 5- to 7-lobed, coriaceous and serrate. Flowers are solitary, long-peduncled and unisexual. Five petals are around 1 cm long, numerous stamens and carpels (Moss, 1983). This is the only Rubus species where the plants are dioecious (one gendered)(CYSIP: Botany n.d.).

Fruit: Compound drupe starts with red tinge but pales as it ripens to yellow, softening (Moss 1983).

Seed: Achene, 4 to 5 mm long (Moss 1983).

2 mm

Rubus chamaemorus seed
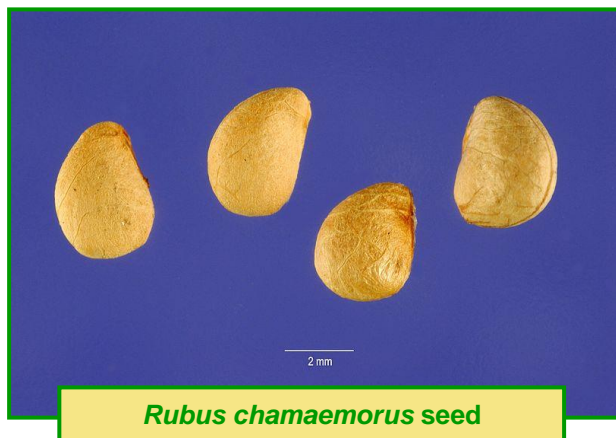
Habitat and Distribution

Sphagnum bogs, usually where only periodically inundated (Moss 1983). Dominant or co-dominant in dwarf-shrub bogs/muskegs.

Seral Stage: Facultative seral species, meaning it is present in recovering early seral sites but more common in later seral stages (Coladonato 1993).

Soil: Organic but relatively dry with sandy subsoils (Lady Bird Johnson Wildflower Center 2011).

Distribution: Found throughout northern Alberta, circumpolar. Alaska, Yukon to southern Baffin Island to Newfoundland south to British Columbia, Alberta, central Saskatchewan, southern Manitoba, Lake Superior, Quebec, Nova Scotia (Moss 1983).

Phenology

Flowers bloom in July with fruit set in August and September (Coladonato 1993).

Pollination

Butterflies and bees (Lady Bird Johnson Wildflower Center 2011).

Dispersal

Seed is dispersed by animals ingesting the fruit (Royal Botanic Gardens Kew 2008).

Genetics

2n=56 (Moss 1983).

Symbiosis

No literature found.

Seed Processing

Collection: Pick fresh berries into containers by hand. Store cool until cleaned.

Seed Weight: 7.4 g/1,000 seeds (Royal Botanic Gardens Kew 2008).

Harvest Dates: Late August or early September.

Rubus chamaemorus leaf and berry

Cleaning: Separate seed from pulp in blender and decant.
Storage: Orthodox (store cold at low relative humidly).
Longevity: No literature found.

Propagation
Natural Regeneration: Creeping rootstalk and rhizome (Coladonato 1993).
Germination: Cold stratified seeds germinate at 18°C (Baskin and Baskin 2002).
Pre-treatment: Cold moist stratification for 270 days breaks dormancy (Baskin and Baskin 2002).
Direct Seeding: Sow in autumn (Plants for a Future n.d.).
Seed Rate: No literature found.
Vegetative Propagation: Cuttings can be taken from half-ripe stolons in July/August or plants can be divided in early spring (Plants for a Future n.d.).
Micro-propagation: Plants can be produced from shoots *in vitro* in the presence of 6-benzylaminopurine (BAP), thidiazuron (TDZ) and gibberellic acid (GA3) and were more successful when an airlift bioreactor was used (Debnath 2007).

Aboriginal/Food Uses
Food: Berries are high in water-soluble Vitamin C (Gray 2011) and are edible, fresh or cooked (Borealforest.org n.d., Marles et al. 2000). Berries contain benzoic acid, a natural preservative, which allows them to be stored in a cache for later use (Gray 2011).
Medicinal: Berries are rich in antioxidants and anthocyanins. Leaves can be infused in boiling water to produce a tea for menstrual cramping and diarrhoea. Leaves can also be used as a compress or poultice to treat wounds (Gray 2011).
Used to treat female afflictions such as barrenness and hard labour (Leighton 1985). Roots were used for coughs, fever and consumption (Chandler et al. 1979).
Other: No literature found.

Wildlife/Forage Usage
Wildlife: Moose and caribou browse the leaves and twigs while the flowers and berries attract insects and birds (Coladonato 1993).
Livestock: No literature found.
Grazing Response: No literature found.

Rubus chamaemorus flower

Reclamation Potential
In a review of Syncrude and Suncor plot data, Geographic Dynamics Corp. (2006) found that *R. chamaemorus* did not invade any of the plots. Adapted to survive fire by re-growing from rhizomes, there is a possibility this species will recover and be present in peat transplants (Coladonato 1993). Plant is fire retardant (Dave's Garden n.d.).

Commercial Resources
Availability: No literature found.
Cultivars: No literature found.
Uses: In northern Scandinavia, cloudberries are sold for use in preserves, tarts and other confections. They are also made into a liqueur (Borealforest.org n.d.).
Can be used in a facial steam or in a tonic for oil skin (Gray 2011).

Notes

Rubus chamaemorus is listed as 97% intact (less occurrences than expected) in the Alberta oil sands region (Alberta Biodiversity Monitoring Institute 2014).

Photo Credits

Photo 1: Steve Hurst USDA-NRCS Plants Database.
Photo 2: Chris 73. Wikimedia Commons.
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