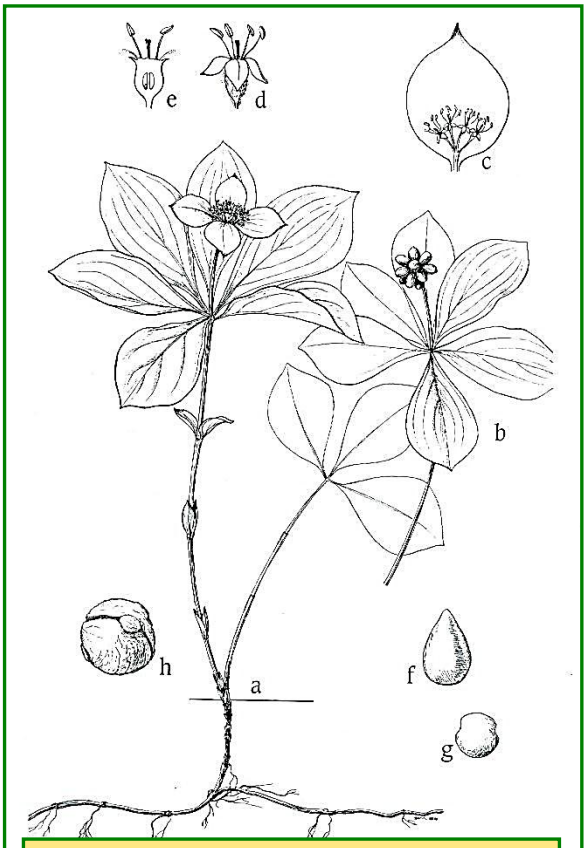
Scientific Name: *Cornus canadensis* L. **Family:** *Cornaceae*

Common Names: bunchberry, bunchberry dogwood, creeping dogwood, pigeonberry

Plant Description

Low herbaceous perennial forming colonies by spreading rhizomes; stems erect, simple, 8 to 18 cm long; leaves sessile, elliptic-ovate to obovate or rhombic, tapering to the base, 4 to 6 forming a whorl near apex, lower leaves reduced and in remote pairs, flower cluster on a short peduncle; bracts, or the involucre, white to cream, greenish when immature, ovate, 1 to 2 cm long; flowers inconspicuous (Gucker 2012).



***Cornus canadensis* - a. Entire plant showing growth habit b. fruit above the whorl of leaves c. flowering head d to e. flower details f to g. seed h. pollen.**

Fruit: Drupe bright red, 6 to 8 mm diameter, borne in clusters (Gucker 2012).
Seed: Round, pale, 2 x 4 mm (Gucker 2012).

Habitat and Distribution

Dominant forb under *Pinus contorta* in Alberta. Mesophytic, prefers moist conditions (Gucker 2012).
Seral Stage: mid to late stages.
Soils: Prefers acidic soils (pH 5.5 to 6.9) (Gerling et al. 1996).
Has no tolerance to salt (USDA NRCS n.d.).
Distribution: In parkland, boreal and montane regions of Alberta. Alaska, Yukon, western District of Mackenzie to Hudson Bay, Newfoundland south to California, New Mexico, South Dakota, Ohio, Pennsylvania, New Jersey (Gucker 2012, Moss 1983).

Inconspicuous flowers and showy bracts of *Cornus canadensis*.

Phenology

Plants flower in June; fruit ripens in August and September (Plants for a Future n.d.).

Pollination

Insect pollinated by bumblebees, solitary bees, beeflies and syrphid flies (Gucker 2012).
C. canadensis anthers are capable of catapulting their pollen into the air (2.5 cm in the air in a windless laboratory) which is said to assist in both wind and insect pollination (Whitaker et al. 2007).

Seed Dispersal

Dispersed by insects like ants, birds and rodents (Burger 1987).

***Cornus canadensis* growing in its natural habitat.**

Genetics

2n=22 (Gucker 2012).

Symbiosis

Shaw (1973) reported associations between *Cornus canadensis* and the following fungal species: *Glomerularia corni, Phyllactinia guttata, Puccinia porphyrogenita, and Phyllosticta* sp.

Seed Processing

Collection: Harvest by hand.
Seed Weight: 10.67 g/1,000 seeds (Royal Botanic Gardens Kew 2008).
Fruit/Seed Volume: 2,776 fruit/L average (2,776 seeds/L fruit).
Fruit/Seed Weight: 7,886 fruit/kg (7,886 seeds/kg fruit).
150 seeds/g (Gerling et al. 1996), 38 seeds/g (Smreciu and Gould 2009).
Average Seeds/Fruit: One.
Harvest Dates: Mid-August to mid-September.
Cleaning: Macerate fruit in blender with equal part water, decant pulp and chaff; rinse and repeat as necessary; allow seed to dry in moving air stream (Wick et al. 2008).
Storage Behaviour: Orthodox; seeds can be dried, without damage, to low moisture contents. Longevity increases with reductions in both moisture content and temperature (Royal Botanic Gardens Kew 2008).
Storage: Store dry at cool temperatures (Wick et al. 2008).
Longevity: Seed remains viable for 2 to 4 years (Wick et al. 2008).

Propagation

Natural Regeneration: Spreads primarily by rhizomes (Gucker 2012).
Germination: Must be cleaned due to inhibitors in fruit (Plants for a Future n.d.).
Seeds in past experiments germinated in greenhouse conditions (Baskin and Baskin 2001).
Pre-treatment: Warm stratify (25°C) for two months then cold stratify for five months (Young and Young 1992).
71 to 112 day cold stratification was done outdoors in Connecticut before seeds were sown (Baskin and Baskin 2001).
Vegetative Propagation: Divide in spring by teasing small divisions from side of main clump (Plants for a Future n.d.).
Haynes and Smagula (2003) found cuttings made in April with rhizomes were more successful than those made without rhizomes or in June.
Planting Density: 1,100 to 1,900 plants/hectare (USDA NRCS n.d.).

Aboriginal/Food Uses

Food: Fruit can be eaten fresh, but is unpalatable (dry and tasteless – Droppo 1987). Fruit can be added to jams, pies and puddings, particularly those of low-

pectin fruits, to increase pectin levels (Plants for a Future n.d.).
Medicinal: Tea can be used to treat a 'sore heart', possibly heartburn. Leaves and stems are analgesic and cathartic – tea being used for a variety of aches and pains (Plants for a Future n.d.). A strong decoction and strained root mash have been used as eyewash to treat sore eyes (Plants for a Future n.d.).

Bunchberry seeds about 2 x 4 mm.

Wildlife/Forage Usage

Wildlife: Forage source for a variety of large ungulates, birds and rodents (Gucker 2012).
Livestock: Poor forage value for livestock (Gerling et al. 1996). Low palatability for browsers and grazers (Gucker 2012).
Grazing Response: Increaser/decreaser (Gerling et al. 1996).

Reclamation Potential

Highly fire resistant, long lifespan, re-sprouts.

Commercial Resources

Availability: Seed and plants are commercially available in Alberta (ANPC 2010).
Seeds have been collected by the Oil Sands Vegetation Cooperative for use in the Athabasca oil sands region.
Cultivars: None known.
Uses: Ornamental ground cover (Gucker 2012).

Notes

C. canadensis is listed as 89% intact (less occurrences than expected) in the Alberta oil sands region (Alberta Biodiversity Monitoring Institute 2014).
The Cree call bunchberry *kawiscowimin*, meaning *itchy chin berry*, a reference to the rough surface of the leaves (Royer and Dickinson 1996).

Photo Credits

Photos 1 to 2: Glen Lee, Regina, Saskatchewan.
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