Scientific Name: *Geranium bicknellii* Britt. **Family:** *Geraniaceae*

Common Names: Bicknell's geranium, Bicknell's cranesbill

***Geranium bicknellii* blooms and green fruit.**

Plant Description

Annual or biennial herb with a slender taproot, usually much branched; stems are mostly 20 to 60 cm tall with spreading hairs and sometimes glandular above; leaves 2 to 7 cm broad, deeply 5-parted, the cuneate divisions cleft into several narrowly oblong lobes; peduncles 2 flowered, pedicels distinctly longer than calyx and glandular-villose; sepals awn-tipped, hairy on margins and veins; petals rose-purple, 5 to 7 mm long, slightly longer than sepals (Moss 1983).

Seed: Mature fruit about 2 cm long with 3 to 5 mm long filiform beak. Seeds cylindrical with network of areolae (Moss 1983).

Habitat and Distribution

Clearings, open woods, disturbed soil (Moss 1983). Shade intolerant (Plants for a Future n.d.).

Seral Stage: Early to late (Reeves 2007).

Soil: Recently disturbed (Reeves 2007).

Distribution: Throughout Alberta. Alaska, Yukon, southwestern District of Mackenzie to James Bay, Nova Scotia, Newfoundland south to California, Utah, Colorado, South Dakota, Iowa, Indiana, Massachusetts (Moss 1983).

Phenology

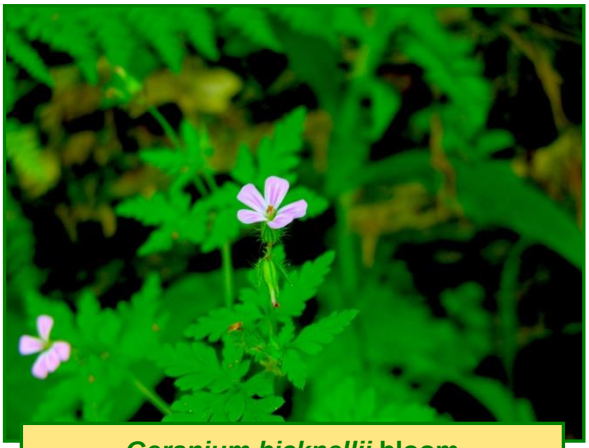
Blooms June through August; indeterminate growth (Lady Bird Johnson Wildflower Centre 2012). Flowering in southeastern Canada is May to September (Reeves 2007).

Pollination

Insect pollinated (Lady Bird Johnson Wildflower Centre 2012).

Seed Dispersal

The seed capsules dry and explode, flinging seeds away from the parent plant; seed can be carried by small animals to a different location (Reeves 2007).



***Geranium bicknellii* bloom**

Symbiosis

Other species of *Geranium* form vesicular-arbuscular associations with mycorrhiza.

Seed Processing

Collection: Seeds can be hand-picked into bags.
Seed Weight: 1.84 g/1,000 (Royal Botanic Gardens Kew 2008).
Harvest Dates: August and September.
Cleaning: Air-dry seeds in paper or Tyvek bags at 15 to 25ºC. Crush material or remove large chaff and crush remaining material. Sieve to remove seeds from chaff using appropriate size screens.
Storage: Store cool and dry (Reeves 2007).
Longevity: Is long lived in soil seed bank (Reeves 2007). Seeds 200 years old and older have been found in the soil however the viability of the seed was unknown (Reeves 2007).

Propagation

Natural Regeneration: Naturally regenerates primarily from seeds (Reeves 2007).
Germination: Optimum germination temperature is 20ºC (Baskin and Baskin 2001).
Pre-treatment: 90% germination when exposed to heat for 10 minutes at 65 to 100°C (Baskin and Baskin 2002, Reeves 2007).
No stratification required (Baskin and Baskin 2001).
Direct Seeding: No literature found.
Planting Density: No literature found.
Seed Rate: No literature found.
Vegetative Propagation: No literature found.
Micro-propagation: No literature found.

Aboriginal/Food Uses

Medicinal: Tea was gargled to heal mouth sores and sore throats (Plants for a Future n.d.) or swallowed to treat urinary infections, excessive menstruation, diarrhoea and intestinal diseases (e.g., cholera and dysentery) (Johnson et al. 1995).

Reclamation Potential

An early seral species, *Geranium bicknellii* would establish well on freshly disturbed sites (Tannas 2004).

Notes

Geranium bicknellii is listed as 98% intact (less occurrences than expected) in the Alberta oil sands region (Alberta Biodiversity Monitoring Institute 2014).
Seeds have been found to germinate after fire or on disturbed sites where the soil warms due to an open canopy (Baskin and Baskin 2001, Reeves 2007).

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