

Scientific Name: *Primula pauciflora* var. *pauciflora*

Family: *Primulaceae*

Common Name: saline shooting star, darkthroat shooting star



***P. pauciflora* in bloom in Fort McMurray, Alberta. Seeds in the lower right hand corner**

Plant Description

An erect perennial forb; flowering stem leafless, glabrous, 5 to 50 cm tall; basal leaves oblanceolate, ovate or spatulate, 4 to 20 cm long with smooth margins; irregular umbel with 3 to 20 stalked flowers, magenta to lavender, 10 to 20 mm long, 5 sepals, 5 recurved petals, 5 stamens with yellow filaments and pollen sacs and 1 pistil (Moss 1983, Royer and Dickinson 2007).

Fruit: Cylindric to ovoid valvate capsule, 5 to 15 cm long (Moss 1983).

Seed: Numerous, tiny brown seeds (USDA NRCS 2010) without a membrane on the edges (eFloras n.d.).

Habitat and Distribution

Found in wet meadows and saline flats (Moss 1983).

Seral Stage: Early to mid-stage (found in saline environments).

Soil: Medium to coarse textured soils, pH between 6.0 and 7.8 and no drought tolerance (USDA NRCS n.d.). Salinity tolerance (Moss 1983).

Distribution: Western and central North America (USDA NRCS n.d.). Southern Alaska, Yukon, western District of Mackenzie to Saskatchewan, southern Manitoba south to California, Arizona, Colorado, Nebraska, North Dakota (Moss 1983). In Alberta, it is found in the southern half and in the northeastern corner (Royer and Dickinson 2007).

Phenology

Plants flower late June to early July (Royer and Dickinson 2007).

Pollination

Flowers of *Primula* species are buzz pollinated, in which pollen-collecting bees (*Bombus* spp.) mechanically vibrate the flowers to extract pollen (Harder and Barclay 1994).

Genetics

$2n=44, 88, 132$ (Moss 1983).

Symbiosis

No literature found.

Seed Processing

Collection: Cut flowering stems and place in paper bags to dry.

Seed Weight: 0.24 g/1,000 seeds.

Harvest Dates: Late July.



Cleaning: Allow capsules to dry. Shake/crush to remove seed. Winnow (screens or blower) to remove chaff.

Storage Behaviour: Orthodox; seeds may be dried down to 3% to 7% relative humidity and stored at freezing temperatures (Royal Botanic Gardens Kew 2008).

Storage: Stored at freezing temperatures in hermetically sealed containers (Royal Botanic Gardens Kew 2008).

Longevity: Unknown.



Propagation

Natural Regeneration: May be able to regenerate one or two years following a single disturbance (e.g., thinning or burning) (Dodson et al. 2007).

Generally grows from seed.

Germination: 100% to 85% germination was achieved when seeds were germinated on a 1% agar media at 20°C (8 hrs day / 16 hrs night) with pre-treatments (Royal Botanic Gardens Kew 2008).

Pre-treatment: Royal Botanic Gardens Kew (2008) received the highest germination when seeds were cold stratified for 6 weeks at 0°C. Cold stratification not required (USDA NRCS n.d.).

Five month outdoor cold, moist stratification used to germinate seeds (Evans et al. 2008)

Vegetative Propagation: Propagated from cuttings (USDA NRCS n.d.).

Aboriginal/Food Uses

Food: All parts of this plant are edible; can be eaten raw or roasted, though not often done because the plants provide very little food (Tilford 1997).

Medicinal: Okanagan-Colville and Blackfoot Indians used an infusion of the roots or leaves as a wash or drops for sore eyes (Hellsen 1974, Turner et al. 1990) and gargled an infusion of the leaves for cankers (Hellsen 1974).

Other: Thompson Indians used the flowers as a pattern for beadwork, and the Okanagan-Colville Indians used crushed flowers to dye arrows pink (Turner et al. 1990).

Wildlife/Forage Uses

P. pauciflora has low palatability to grazing and browsing animals (USDA NRCS n.d.).

Reclamation Potential

As a saline tolerant species, *P. pauciflora* could be very useful in revegetating areas with high electrical conductivity and salt contamination.

Commercial Resources

Harvest Methods: No literature found.

Availability: No literature found.

Cultivars: Red wings (Shoot 2013).

Uses: No literature found.

Notes

Formerly known as *Dodecatheon pulchellum* (Raf) Merrill (ITIS n.d.). Synonym *D. radicum* is not valid (ITIS n.d.).

This species has considerable morphological variation and variation in ploidy (Suttill and Allen 1992), and there is some debate regarding taxonomy, but currently only 4 subspecies are accepted: *cusickii*, *macrocarpum*, *monanthum* and *pulchellum* (ITIS n.d.).



It has been recently proposed that species of *Dodecatheon* should be moved to *Primula* in the subgenus *Auriculastrum* (Mast and Reveal 2007).

Photo Credits

Photo 1: Wild Rose Consulting, Inc. 2007.

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http://upload.wikimedia.org/wikipedia/commons/d/d5/Dodecatheon_pulchellum_ssp_pulchellum_8.jpg
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