

Scientific Name: *Sisyrinchium montanum* L. Green **Family:** Iridaceae

Common Names: mountain blue-eyed grass, strict blue-eyed grass



***S. montanum* in bloom with seed shown in the bottom right.**

Plant Description

Perennial, grows in small clumps; tufted, erect, 1 to 5 dm tall with stiff, flattened stems 1 to 4 mm wide; leaves 1 to 3.5 mm wide, hairless, narrowly linear with winged margins, mostly basal; bracts of spathe are unequal, with the inner about half the length of the outer (outer 2 to 6 cm long), pale green to purplish in colour; inflorescence solitary or in small clusters on a long, leafless stalk; flowers about 1 cm long, 6 mm in diameter, blue-violet; perianth segments spreading, nearly alike, notched or abruptly narrowed into tip at apex; roots fibrous, wrinkled,

and originate from a short rhizome (Currah et al. 1983, Moss 1983).

Fruit: Globose capsule with 3 compartments, 3 to 6 mm long, light brown when ripe; contains many seeds (Currah et al. 1983, Wilkinson 1999).

Seed: Dull black, globose to ovoid, 1mm long (Currah et al. 1983).

Habitat and Distribution

Common throughout most ecoregions; found in open grasslands in foothills and northern regions; restricted to depressional grassland and moist meadows in drier prairies (Tannas 1997).

Seral Stage: Early successional (Tannas 1997).

Soil: Tolerant of a variety of soil types and moisture regimes.

Distribution: Southern Yukon, western District of Mackenzie to Newfoundland South to Colorado, southern Saskatchewan, southern Manitoba, Great Lakes (Moss 1983).

Phenology

Emerges in May, with buds produced May to June, flowering occurs June to July, seeds mature July to August (Currah et al. 1983).

Pollination

Iridaceae family are mostly pollinated by insects (Proctor and Yeo 1972).

Seed Dispersal

Seeds potentially spread via birds (Froehlich 2013).

Genetics

2n=96 (Moss 1983).

Symbiosis

Mycorrhizal (Currah et al. 1983).

Seed Processing

Collection: Hand harvest just as the seed capsule turns brown. If collected earlier, collect with stems and dry with stems attached.

Seed Weight: 0.81 g/1,000 seeds (Royal Botanic Gardens Kew 2008).

Harvest Dates: July to mid-August (from data collected in Alberta and Manitoba), earlier with increasing altitude and latitude (Morgan et al. 1995).

Cleaning: Shake seed free of capsule. Winnow or screen if necessary.

Storage Behaviour: Orthodox (Royal Botanic Gardens Kew 2008).

Storage: 55 % viability following drying to moisture content in equilibrium with 15 % relative humidity and freezing for 11 months at -20°C (Royal Botanic Gardens Kew 2008).

Longevity: No literature found.

Propagation

Natural Regeneration: Grows readily from seed (Lady Bird Johnson Wildflower Center 2012). Self seeds; a few plants can develop into a much larger colony given a few years (Froehlich 2013).

Germination: Currah et al. (1983) obtained no germination both before and after stratification, and noted germination may not occur for up to 2 years following planting.

Froehlich (2013) obtained germination indoors in cool conditions of 10 to 15°C after cold stratification. She also noted that if this is not immediately successful, the seeds can still be placed outside where they will germinate “in their own time”.

Royal Botanic Gardens Kew (2008) obtained 75% germination with the pre-treatment described below.

Pre-treatment: Seed imbibed on 1% agar for 10 weeks at 25/10°C, then scarified (chipped with scalpel); germination medium = 1% agar + 250 mg/l gibberellic acid (GA3); germination conditions = 20/10°C, 8 hrs day/16 hrs night (Royal Botanic Gardens Kew 2008).

Froehlich (2013) suggests stratifying seeds in trays in the fridge or a cold room for 6 weeks.

Direct Seeding: No literature found.

Planting Density: No literature found.

Seed Rate: No literature found.

Vegetative Propagation: Division of mature plants in spring (Currah et al. 1983).

Micro-propagation: No literature found.

Aboriginal/Food Uses

Food: No literature found.

Medicinal: Taken as a cathartic by the old or boiled and used to treat fevers (Moerman 2013). Other native peoples used the roots to make tea for diarrhoea, and the entire plant to make tea for stomach aches and to expel intestinal worms (Johnson et al. 1995). Herbalists have made the plant into a tea for menstrual disorders and for birth control (Johnson et al. 1995).

Wildlife/Forage Usage

Wildlife: No literature found.

Livestock: Poor forage value; grazed only if better quality species not present; possibly mildly toxic (Tannas 1997).

Grazing Response: Increaser; a strong population may be an indication of overgrazing (Tannas 1997).

Reclamation Potential

S. montanum often naturally moves into disturbed areas, and it is able to grow in a wide range of soils and moisture regimes (Tannas 1997).

Commercial Resources

Availability: No literature found.

Cultivars: No literature found.

Uses: Decorative; sometimes used in gardens (Froehlich 2013).

Photo Credits

Photo 1: Wild Rose Consulting, Inc.

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