Plant Propagation Protocol for *Campanula parryi*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/2022/CAPA10.pdf

Figure 1. Photograph of Campanula parryi (Dittmann, 2010)

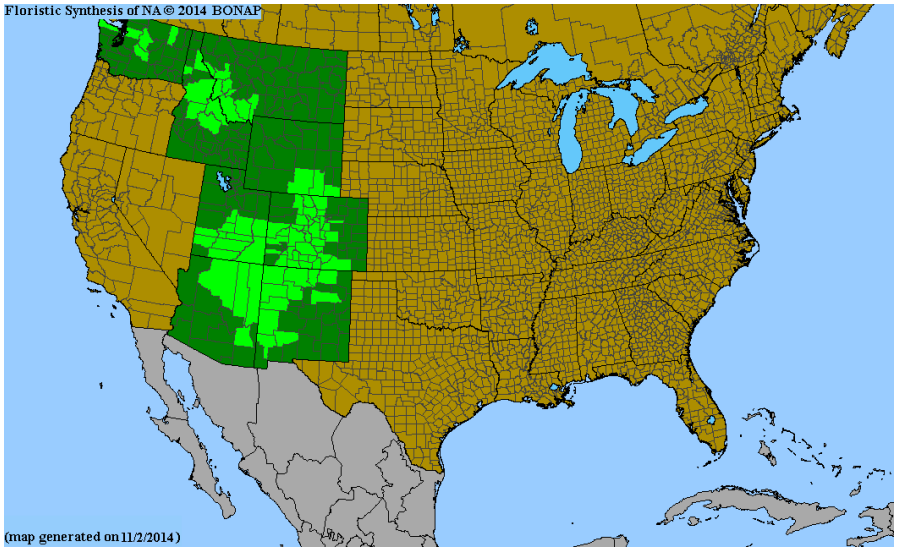

Figure 2. Distribution map of *Campanula parryi* in North America (Kartesz, 2014)

Species present in state and native

Species present in county and not rare

Species not present in state

TAXONOMY	
Plant Family	
Scientific Name	Campanulaceae
Common Name	Bellflower family
Species Scientific Name	
Scientific Name	*Campanula parryi* A. Gray
Varieties	

Sub-species	
Cultivar	
Common Synonym(s)	*Campanula parryi* A. Gray var. *idahoensis* McVaugh *Campanula parryi* A. Gray var. *parryi*
Common Name(s)	Parry's bellflower Parry's harebell
Species Code (as per USDA Plants database)	CAPA10
GENERAL INFORMATION	
Geographical range	See map above. Occurs in the Central and Northern Cascades and Olympic Mountain Ranges in Washington State, as well as central Idaho, Montana, Arizona, and New Mexico (Larrison & Seattle Audubon Society, 1974).
Ecological distribution	Occurs in subalpine meadows (Knoke et al., n.d.). Found in moist regions with silty to sandy soil (Lady Bird Johnson Wildflower Center - the University of Texas at Austin, n.d.).
Climate and elevation range	High elevations in mountainous regions (Larrison & Seattle Audubon Society, 1974). Occurs within 2100-3000 meters of elevation (*Campanula Parryi* Parry's Bellflower, Idaho Bellflower Pfaf Plant Database, n.d.).
Local habitat and abundance	Found within moist subalpine or mountainous meadows, *C. parryi* can be found under quaking aspens (Powell, 2013).
Plant strategy type / successional stage	Plant strategy consists of colonizing through rhizomes (Kelaidis, 1995).
Plant characteristics	*C. parryi* is a perennial herb with narrow rhizomes. Leaves vary from elliptic to oblanceolate shape, are arranged in alternate pattern, and contain milky juice. Calyx and corolla are both 5-lobed (Gilkey et al., 1980) Bluish-purple flowers with bell-shaped corolla. Fruits within a 3-cell capsule. Plants are typically no taller than 10" in height (Larrison & Seattle Audubon Society, 1974).
PROPAGATION DETAILS	
Ecotype	Protocol based on Lee Riley's protocol of phylogenetically similar bellflower *Campanula scouleri* (Riley, 2018).
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (Q-plug)
Stock Type	262 mL container

Time to Grow	14 weeks
Target Specifications	Firm plug in container
Propagule Collection Instructions	When seedheads are ripe in September, cut heads off and store in bag. Once seeds have been drying for 1-2 weeks, shake bag to separate seeds.
Propagule Processing/Propagule Characteristics	Information regarding seed density and longevity is lacking.
Pre-Planting Propagule Treatments	*C. parryi* seed should be sown into Q-plug filled trays inside sealed plastic bags to undergo stratification treatment. The trays should be kept refrigerated at temperatures from 1-3 °C over the course of 90 days. Trays should be checked weekly and remoistened if necessary. Monitor and treat any present mold with 1% hydrogen peroxide as needed (Riley, 2018).
Growing Area Preparation / Annual Practices for Perennial Crops	The growing medium should be 40:20:20:20 peat: composted fir bark: perlite: pumice with Nutricote controlled release fertilizer (18N:6P2O5:8K2O) (Riley, 2018).
Establishment Phase Details	Maintain germinating seeds at a temperature of 18°C, ensuring ample moisture.
Length of Establishment Phase	Approximately 2 weeks
Active Growth Phase	Specific information regarding cultural practices within the active growth phase for *C. parryi* is lacking.
Length of Active Growth Phase	12 weeks
Hardening Phase	Seedlings should be moved to an outdoor growing area in late September in moist, loamy soil with light exposure ranging from sun to part shade.
Length of Hardening Phase	2 weeks
Harvesting, Storage and Shipping	When shipped, plants should be well irrigated and kept in containers (Riley, 2018).
Length of Storage	Seedlings must be outplanted immediately.
Guidelines for Outplanting / Performance on Typical Sites	Seedlings are to be outplanted in the fall. Ensure plants receive light exposure within range of full sun to partial shade.
Other Comments	
INFORMATION SOURCES	
References	*Campanula parryi parry's bellflower, idaho bellflower pfaf plant database*. (n.d.). Retrieved May 22, 2022, from https://pfaf.org/user/Plant.aspx?LatinName=Campanula+parryi Dittmann, Lee. (2010). *Campanula parryi* [Photograph]. University of California, Berkeley.

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Date Protocol Created or Updated	05/13/2022