

Plant Propagation Protocol for [*Arabis davidsonii*]
ESRM 412 – Native Plant Production

Arabis davidsonii

Native Range In USA

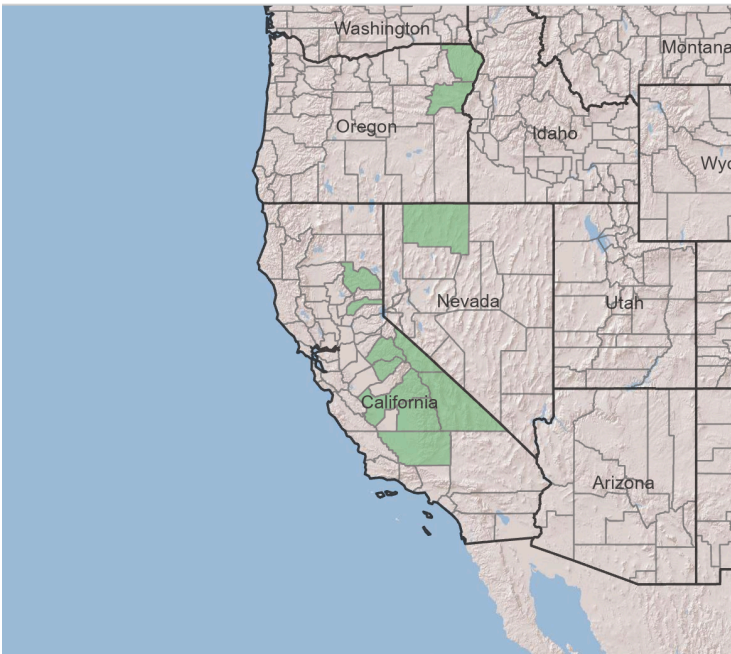


Photo on the left from: (toonmusic, *Davidson's Rockcress (Boechera davidsonii)*)
Photo on the right from: USDA-NRCS,

TAXONOMY	
Plant Family	
Scientific Name	Brassicaceae
Common Name	Mustard Family
Species Scientific Name	
Scientific Name	<i>Arabis davidsonii</i> Greene
Varieties	<i>Arabis davidsonii</i> Greene var. <i>davidsonii</i> <i>Arabis davidsonii</i> Greene var. <i>parva</i> Rollins
Sub-species	
Cultivar	
Common Synonym(s)	<i>Boechera davidsonii</i> (Greene)

Common Name(s)	David's Rockcress
Species Code (as per USDA Plants database)	ARDA
GENERAL INFORMATION	
Geographical range	California: Eastern side, along the Sierra Nevada Mts. And Cascade Mts. Nevada Oregon
Ecological distribution	Rocky outputs, ledges, enjoys lots of sun exposure and prefers dry to moderately moist soil what is well drained, with high amounts of sand.
Climate and elevation range	Subalpine to alpine climates and elevations from 1,200 - 3,400 m
Local habitat and abundance	This species is commonly found in rocky areas in high elevation amount Lodgepole forest's, Subalpine Forest's, and Alpine Fell-fields.
Plant strategy type / successional stage	Seral secondary successional development. <i>Boechera davidsonii</i> is adapted to tolerate temperatures ranging from below freezing to about 25-30°C (77-86°F). However, it may not tolerate extreme heat and drought conditions for prolonged periods.
Plant characteristics	Perennial herb/shrub that grows from 10 to 40 cm. Arabis species are small, delicate, and grow low to the ground forming mats. It has basal leaves forming a rosette and stem leaves smaller and more widely spaced. These perennials are handy for rock gardens, wall plantings, or border. They produce clusters of fragrant flowers that come in white or pink shades, and they bloom in the early spring, rising above the evergreen leaves.
PROPAGATION DETAILS	
Ecotype	*Based off of an ecotype done in Crater Lake national Park, Oregon for the plant species <i>Boechera horizontalis</i> .
Propagation Goal	Plants
Propagation Method	Seed

Product Type	Seed Propagules (Direct Planting) in containers (cell plug)
Stock Type	(Perennial) 262 ml container
Time to Grow	Germination time should take anywhere from 14 to 25 days, best to start seed growth in early summer for fresh seeds. For old seeds, germination can take anywhere from 3-4 months it is best to sow in autumn.
Target Specifications	Plants should be about 3- 4 inches before establishing it into natural environment, and have green leaves appearing.
Propagule Collection Instructions	Seeds are usually held in the caucus's of dead plant (flower) and are released naturally into the soil by rainfall. Collection of seeds should be done after the hot season around August and September, after the flower has dried up, and before the first rain to decrease the change of seeds being washed out. There is a high population of this species in California, so potentially hand collection of seeds in the Sierra Nevada Mts. Or ordering seeds from a distributor.
Propagule Processing/Propagule Characteristics	3000 seeds per gram
Pre-Planting Propagule Treatments	Because the seeds of <i>Boechera davidsonii</i> are quite small, the easiest way to plant them is to use trays filled with medium plugs known as Q-plugs. To prepare the seeds for planting, the trays are sealed inside plastic bags and kept in a refrigerator at a temperature of 1 to 3 degrees Celsius for 90 days. During this stratification period, the trays should be checked weekly and kept moist. If mold appears, a 1% hydrogen peroxide solution can be used to treat the trays.

Growing Area Preparation / Annual Practices for Perennial Crops	To grow <i>Boechera davidsonii</i> successfully, it's important to select a suitable location with partial shade and well-drained soil. The soil should be prepared by removing any unwanted materials and adding organic matter like compost or manure to enhance soil quality and fertility. Soil composition can be a 40:20:20:20 peat:compostsoted fir bark: perlite: pumice. Regions with a Mediterranean climate, where summers are dry and winters are wet, are best suited for growing <i>Arabis davidsonii</i> . Containers should be Q plugs, and then later transplanted into target containers after germination.
Establishment Phase Details	The germination of <i>Boechera davidsonii</i> seeds is consistent but may take some time. Typically, it takes about 14 to 21 days for the seeds to fully germinate. Once the seeds have sprouted, the young plants are fertilized with soluble 12-2-14-6 Ca-3Mg at a concentration of 75 parts per million (ppm) for one week while still in Q-plugs.
Length of Establishment Phase	About 3 weeks
Active Growth Phase	To keep a tidy growing area and prevent excessive self-seeding, it's recommended to trim back <i>Arabis davidsonii</i> plants after they have finished blooming. However, it's important to avoid disturbing the roots while doing so.
Length of Active Growth Phase	About 18 weeks
Hardening Phase	Unlike some other plant species, <i>Boechera davidsonii</i> seeds do not require a dry period to enter a state of dormancy before planting. Once the seeds have germinated and developed into seedlings, they can be moved to an outdoor growing area in early September.
Length of Hardening Phase	3 to 4 weeks
Harvesting, Storage and Shipping	Harvest should be preformed in Autumn, around October.
Length of Storage	No storage necessary, seedlings can be transplanted to out plant area right away. Before transportation plants need to be well watered.

Guidelines for Outplanting / Performance on Typical Sites	No information Found
Other Comments	This species is very green for restoration projects with the goals of establishing plants on high erosion slopes.
INFORMATION SOURCES	

References

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