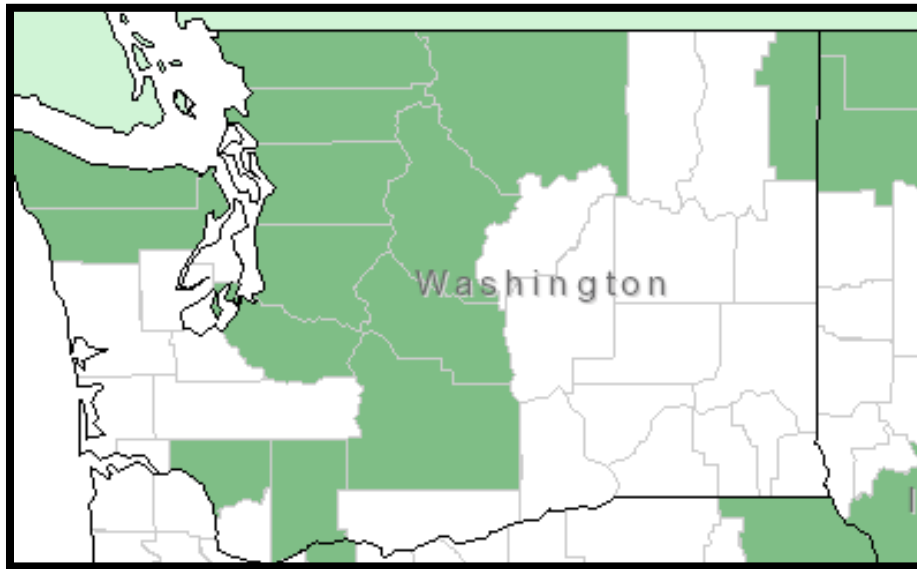


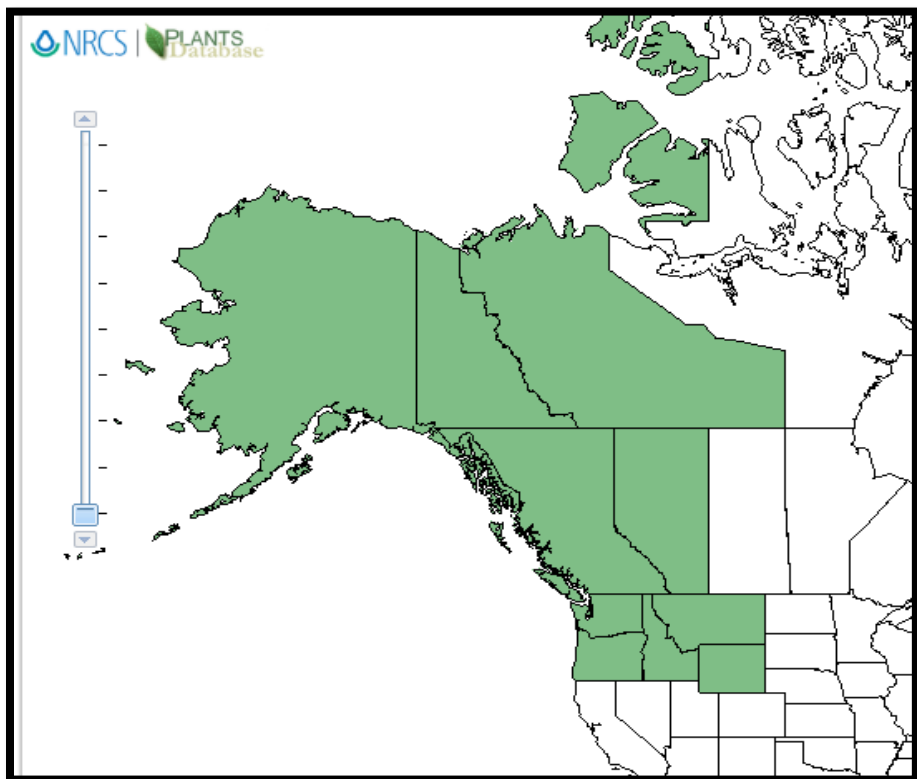
68Plant Propagation Protocol for [*Phyllodoce glanduliflora*]
ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/PHGL6.PDF>

Washington distribution



North America distribution



TAXONOMY	
Plant Family	
Scientific Name	Ericaceae
Common Name	Heath family
Species Scientific Name	
Scientific Name	<i>Phyllodoce glanduliflora</i> (hook.) Coville yellow mountainheath (1)
Varieties	<i>Phyllodoce aleutica</i> (Spreng.) A. Heller ssp. <i>glanduliflora</i> (Hook.) Hultén (1)
Sub-species	N/A
Cultivar	Phyllodoce empetriformis (pink mountain heather) Phyllodoce caerulea (purple mountain heather) Phyllodoce breweri (brewer's mountain-heather) (1)
Common Synonym(s)	<i>Menziesia glanduliflora</i> Hook. <i>Phyllodoce aleutica</i> (Spreng.) Heller <i>Phyllodoce aleutica</i> (Spreng.) Heller ssp. <i>glanduliflora</i> (Hook.) Hult��n (1)
Common Name	Yellow mountain heath (1)
Species Code (as per USDA Plants database)	PHGL6 (1)
GENERAL INFORMATION	
Geographical range	Alaska, Canada, Washington, Oregon, Idaho, Montana, Wyoming. (7)
Ecological distribution	Dry to moist open forest, meadows, upper montane to alpine zones. (7)
Climate and elevation range	Found at high elevations ranging from Alaska, British Columbia to Oregon and Wyoming.(7)
Local habitat and abundance	Common at higher elevations. (2)
Plant strategy type / successional stage	Stress-tolerator. (2)
Plant characteristics	Low-growing shrub with mulch-branched erect stems from 4-15 in. tall and the alternating evergreen leaves are small and needle-like and grow to less than 1 in long. The edges of the leaves have tiny glands, and the underside of the leaves are grooved. The yellow flowers are distinguishing feature of yellow mountain-heather; they are pale yellow to greenish, urn-shapes at less than 1 cm. Both flowers and stalks are sticky and hairy. (7) (4)
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Seeds
Product Type	Plants
Stock Type	Seeds

Time to Grow	1 year
Target Specifications	Seeds
Propagule Collection Instructions	Seed collection should occur from late summer to early fall. When collecting Seeds, clip off the entire inflorescence and store in a dry container. Make sure the inflorescences dry upside down to allow seeds to fall out. (5)
Propagule Processing/Propagule Characteristics	No information.
Pre-Planting Propagule Treatments	No information.
Growing Area Preparation	Use a wooden or plastic seed tray (3-4 in. deep) and sow seeds into a compost and perlite media mix. After sowing the seeds mist-spray the surface of the compost, at least twice a day in warm sunny weather (less frequently in cool, cloudy conditions and the dull winter months), and continue even after seeds have germinated; misting helps to keep the soil surface moist and cools the seedlings. Keep the seed tray in a shaded part of a well-ventilated greenhouse, out of intense direct sun, to prevent rapid evaporation from the soil surface even after seedlings appear, as this helps prevent them drying out. (5)
Establishment Phase Details	After seedlings have germinated the seedlings will have 2 green leaf-like cotyledons; then true leaves appear. (5)
Length of Establishment Phase	1-3 months. (5)
Active Growth Phase	After seedlings have germinated the seedlings will have about 2 green leaf-like cotyledons; then true leaves appear. To prevent seedlings becoming too leggy, pinch out the tip if they are over 1 in tall; this will make them sprout side shoots and stimulate growth. (5)
Length of Active Growth Phase	1 year. (5)
Hardening Phase	No information.
Length of Hardening Phase	No information.
Harvesting, Storage and Shipping	No information.
Length of Storage	No information.
Guidelines for Outplanting/ Performance on Typical Sites	No information.
Other Comments	
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Cuttings

Product Type	Container
Stock Type	Cuttings
Time to Grow	6 months-1 year
Target Specifications	Cuttings
Propagule Collection Instructions	Take cutting from summer-autumn; select a strong, healthy, nonflowering side shoot. Remove with clean pruners, cutting straight across the stem about 4 in. below the stem tip. (9)
Propagule Processing/Propagule Characteristics	Choose shoots that has only a few buds that are concentrated to one part of the stem and take 2 in. cuttings, one at the base and one at the tip. (9)
Pre-Planting Propagule Treatments	Trim each stem to a length of about 1.5-2 in; holding the base of the cutting firm with your finger, cut straight across the stem at the appropriate point with a clean, sharp knife. Strip leaves from cuttings by lightly holding each stem about 1/3 from the base and quickly pull the cutting through finger and thumb. (9)
Growing Area Preparation	Fill cells or pots with a mixture of well-drained and aerated medium of equal parts of fine bark and peat. Insert cuttings so that the lowest leaves are just resting on the surface. Water in the cuttings with a general-purpose fungicide using a watering can. Place cuttings in a closed case (a heated casing will speed up rooting) and place out of direct sunlight. (9)
Establishment Phase Details	Cuttings will root after 8-12 weeks, to continue vigorous growth apply low-nitrogen fertilizer once a week to prevent and pinch out growing tips from cells or pots regularly to encourage formation of bushy new growth. Cuttings are prone to rot so pray with water or general fungicide as well as ventilate cuttings daily. (9)
Length of Establishment Phase	8- 12 weeks. (9)
Active Growth Phase	After 4-6 months, when plants are well established, pot each cutting individually into 3 in. pots of soilless mix that is an acidic media mix. Water from below only when medium has almost dried out to avoid growth of algae, liverworts, and mosses on the surface of the growing medium. (9)
Length of Active Growth Phase	4-6 months. (9)
Hardening Phase	Grow up-potted plants outdoors but protect from severe cold if needed to prevent young shoots from dying back. (9)
Length of Hardening Phase	7 months. (9)
Harvesting, Storage and Shipping	No information.
Length of Storage	No information.
Guidelines for Outplanting / Performance on Typical Sites	From late summer onward, plant cuttings in final locations. For best outcome, plant cuttings irregular groups, spacing them 8-10 in. apart. Should rapidly grow into one another to form large clumps. (9).
Other Comments	

INFORMATION SOURCES	
References	<p>1. USDA: Natural resources conservation service. Web https://plants.usda.gov/core/profile?symbol=PHGL6&mapType=distribution</p> <p>2. Brietzke C. and Sterzomski, B. “Biodiversity of the Central Coast”. 2013. Web. https://www.centralcoastbiodiversity.org/yellow-mountain-heather-bullnbspphyllodoce-glanduliflora.html</p> <p>3. “Dave’s Garden”. Web. https://davesgarden.com/guides/pf/b/Ericaceae/Phyllodoce/none/cultivar/0/grid#b</p> <p>4. “Flora of North America”. FNA Vol. 8 pgs. 476-478. Web. www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250065662</p> <p>5. “Heather Society” Web. https://www.heathersociety.org/growing-aftercare-faq/</p> <p>6. “Evergreen: Native plant database”. Web. https://nativeplants.evergreen.ca/search/view-plant.php?ID=04509</p> <p>7. Klingenberg, Brian (editor) 2017. <i>E-Flora BC: Electronic Atlas of the Plants of British Columbia</i> [eflora.bc.ca]. Lab for advanced spatial analysis, Department of geography, University of British Columbia, Vancouver. [Accessed: 25/04/2018]. http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Phyllodoce%20glanduliflora</p> <p>8. Yellow Mountain-heath — <i>Phyllodoce glanduliflora</i>. Montana Field Guide. Montana Natural Heritage Program. Retrieved on April 25, 2018, from http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=PDERI0Z050</p> <p>9. Toogood, Alan. “The American Horticulture Society: Plant Propagation.” New York, NY, DK Publishing, 1999. 110-111</p>
Other Sources Consulted	<p>North American Rock Garden (NARGS). “<i>Phyllodoce glanduliflora</i> - Yellow Mountain-heather”. Web. https://nargs.org/forum/phyllodoce-glanduliflora-yellow-mountain-heather</p> <p>“The international Plant Names Index”. Web. www.ipni.org/ipni/simplePlantNameSearch.do;jsessionid=95419B1B5FE96F47B0050E00963E86BD?find_wholeName=Phyllodoce+glanduliflora&output_format=normal&query_type=by_query&back_page=query_ipni.html</p> <p>“Reforestation, nurseries, & genetics resources: RNGR”. Web. https://npn.rngr.net/search/index_html?b_start:int=60&SearchableText=ericaceae</p>
Protocol Author	Sara Wallesen
Date Protocol Created or Updated	04/25/18

Old Protocol:

***Phyllodoce glanduliflora* Yellow mountainheath (Ericaceae)**



Margaret Williams @ USDA-NRCS PLANTS Database

Range: From coastal Alaska to Washington state and southwards into Oregon in the Cascades. Near sea level at Prince William Sound, but usually in the alpine or subalpine zones.

Climate, elevation: Middle to high elevations, up to the highest elevations occupied by vascular plants.

Local occurrence: Common at higher elevations.

Habitat preferences: Rocky sites, moist areas, bogs.

Plant strategy: An evergreen shrub of high elevations, it is a stress tolerater. Grows in the open.

Associated species: *Phyllodoce empetriflora*, with which is sometimes hybridizes., *Lupinus lepidus*, *Aster alpigenus*, *Erigeron aureus*.

May be collected as seed, cuttings or layering. Cuttings are the easiest method of propagation.

Collect seeds from early September until snowfall. Clip off the entire inflorescence and store in paper bags. Dry with seed heads upside down (so seeds fall out). Seeds

are very small. Cold stratification is probably unnecessary. Sow seeds on soil surface. Seedlings require one full year before they can be transplanted into pots. Protect seedlings from desiccation and direct sunlight.

Collect cuttings in late summer or early fall. Take lateral vegetative shoots 3-5" long. Clip between the hardwood (mature secondary growth) and the current year's growth. Keep cuttings cool and moist. Remove leaves within 1/2" of the end of the cutting. Soak in rooting hormone for 1-3 days. Keep cuttings moist (misting best) and fertilize every 2 weeks. Cuttings can be transplanted after 3-4 months.

Hitchcock and Cronquist describe the plant as nearly impossible to grow and get to flower in gardens.

References

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Data compiled by James A. Lutz, 2006.