

## Plant Propagation Protocol for *Scutellaria lateriflora* L.

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/SCLA2.pdf>



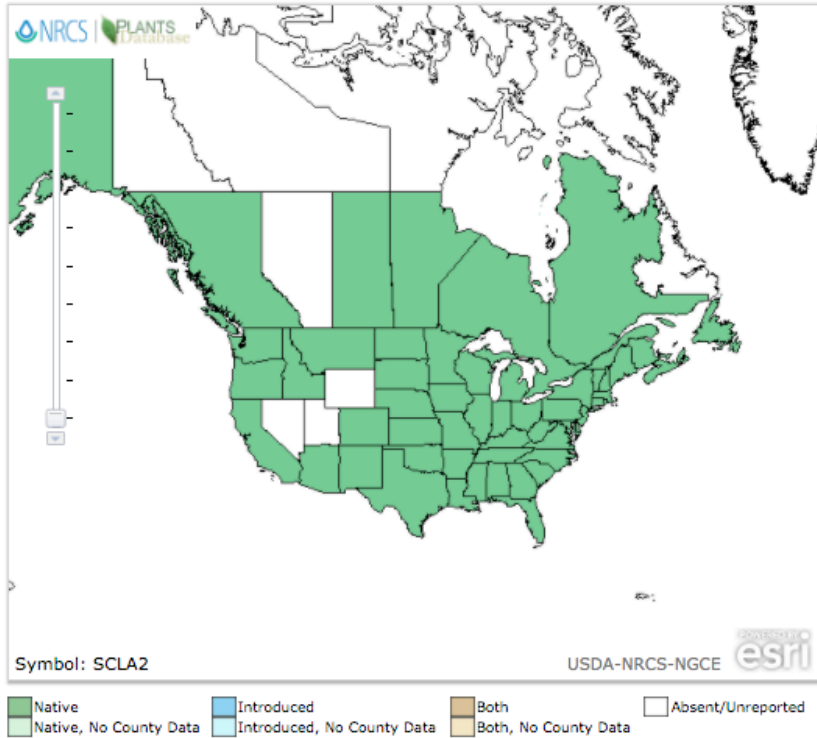
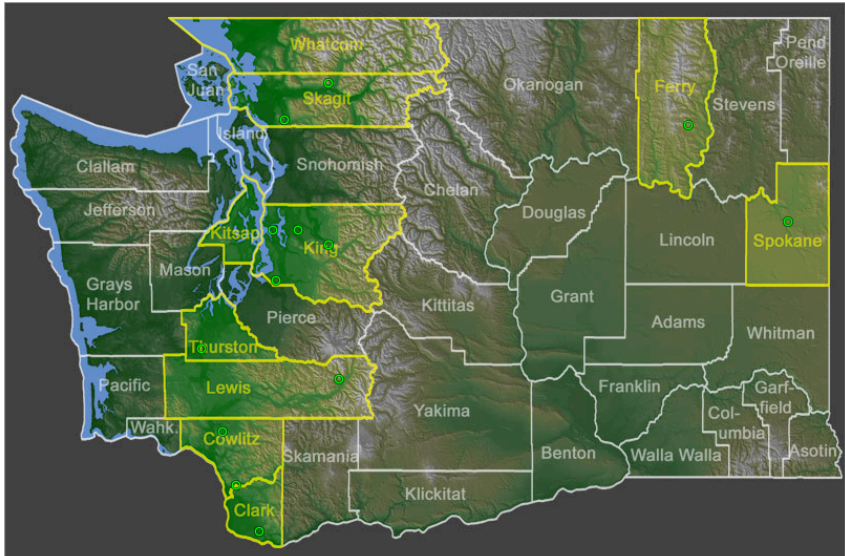
("Scutellaria Lateriflora L." 2017)




("Scutellaria Lateriflora." 2017)



TAXONOMY	
Plant Family	
Scientific Name	Lamiaceae (USDA)
Common Name	mint
Species Scientific Name	
Scientific Name	<i>Scutellaria lateriflora</i> L.
Varieties	<i>Scutellaria lateriflora</i> L. var. <i>lateriflora</i> (USDA 2017)
Sub-species	None found
Cultivar	None found
Common Synonym(s)	<i>Scutellaria lateriflora</i> L. var. <i>lateriflora</i> (WTU 2017) (USDA 2017) <i>Cassida lateriflora</i> (L.) Moench (Pfaf 2017) (Gleason and Cronquist 1991)
Common Name(s)	blue skullcap (USDA 2017) mad dog skullcap side-flowering skullcap madweed (WTU 2017) Virginia Skullcap (Pfaf 2017)

Species Code	SCLA2
<b>GENERAL INFORMATION</b>	
Geographical range	 <p>Symbol: SCLA2</p> <p>USDA-NRCS-NGCE esri</p> <p>Native Native, No County Data Introduced Introduced, No County Data Both Both, No County Data Absent/Unreported</p> <p>(USDA 2017) N. America - Newfoundland to British Columbia, south to Florida and Ontario. (<i>Pfaf</i> 2017) (Radford et al. 1968) (Wharton and Barbour 1971) (Gleason and Cronquist 1991)</p>  <p>Both sides of the Cascades in Washington; occurring throughout North America. (<i>WTU</i> 2017) (Gleason and Cronquist 1991)</p>

Ecological distribution	<p>Habitats include moist sedge meadows, openings in floodplain woodlands, soggy thickets, swamps, bogs, seeps and springs, edges of vernal pools and ponds, moist depressions in limestone glades, and shaded areas of cliffs. In wooded areas, this plant benefits from any disturbance that reduces the density of woody vegetation; it is typically found in partially shaded wetland areas. (<i>Mad-dog</i> 2017)(Gleason and Cronquist 1991) (Radford et al. 1968) (Baskin and Baskin 1982)</p> <p>Alluvial thickets, meadows and swampy woods (<i>Pfaf</i> 2017) (Iverson et al. 2002)</p>
Climate and elevation range	<p>Low to moderate elevations (Gleason and Cronquist 1991) (Hedge et al. 2002)</p> <p>USDA Hardiness Zones 6-9 (<i>Pfaf</i> 2017)</p>
Local habitat and abundance	<p>Moist bottomlands and meadows, low to moderate elevations. Abundant. (<i>WTU</i> 2017) (Gleason and Cronquist 1991)</p>
Plant strategy type / successional stage	<p>Slow to aggressive spreader depending on environment</p>
Plant characteristics	<p><b>General:</b> Perennial herbs from slender, creeping rhizomes, the stems rising singly, 2-8 dm. tall, usually puberulent in lines.</p> <p><b>Leaves:</b> Leaves opposite, petioles 0.5-2.5 cm. long, the blades thin, pinnately veined, mostly glabrous, ovate or lance-ovate, 3-8 cm. long and 1.5-5 cm. wide, with rounded teeth and broadly rounded base.</p> <p><b>Flowers:</b> Flowers in axillary racemes, or terminal on axillary branches, the racemes 2-12 cm. long; calyx two-lipped, the upper lip with a prominent transverse appendage, 1.5-2.5 mm. long; corolla blue, 6-8 mm. long, two-lipped, the short upper lip hood-like, the lower 3-lobed, surpassing the upper lip, the center lobe large, the lateral lobes attached to the upper lip; stamens 4, the lower pair longer than the upper and with one of the pollen sacs abortive; style 2-parted; ovary 2-celled, superior.</p> <p><b>Fruits:</b> Nutlets 4 (<i>WTU</i> 2017) (Gleason and Cronquist 1991) (Radford et al. 1968)</p>
<b>PROPAGATION DETAILS – SEED</b>	
Ecotype	Northeastern North America
Propagation Goal	Plants (Crow 2000)
Propagation Method	Seed (Crow 2000)
Product Type	Container (plug) (Crow 2000)

Stock Type	Quarter-gallon container
Time to Grow	At approx. 6 weeks or when seedling has reached 2" tall seedlings can be up-potted out of plugs into larger containers
Target Specifications	varies
Propagule Collection Instructions	Unknown how wild seed is collected, seed available for purchase
Propagule Processing/Propagule Characteristics	<p>65,000 seeds per ounce  ("Scutellaria Lateriflora (Mad-dog Skullcap)." 2017)</p>  <p>("Scutellaria Lateriflora (Mad-dog Skullcap)." 2017)</p>
Pre-Planting Propagule Treatments	<p>Stratify the seeds in the refrigerator for one week. Place seeds on a moist paper towel, put the paper towel in a zippered baggie, and place the baggie in the refrigerator set at 45 degrees Fahrenheit or slightly lower. Check on the seeds in the refrigerator periodically during the stratification period to ensure none grow moldy or dry out too much. (How to Propagate Skullcap." 2017)</p>
Growing Area Preparation / Annual Practices for Perennial Crops	<p>The preference is light shade to full sun, wet to moist conditions, and soil with abundant organic matter. Shallow rocky or gravelly soil is tolerated if it retains moisture during dry spells. (Mad-dog 2017) (Baskin and Baskin 1982)</p> <p>Suitable pH: acid, neutral and basic (alkaline) soils. (Baskin and Baskin 1982) Succeeds in a sunny position in any ordinary garden soil that does not dry out during the growing season. Plants are not so long-lived when grown in rich soils. (Pfaff 2017)</p>
Establishment Phase Details	<p>Start the seeds in a greenhouse (65F night 75F day temperature) in late winter to early spring. Do not cover the seeds. Seeds germinate in 2 weeks. Seedlings are small. Repot into 2 inch containers. Growing mix is 1:4 parts sand to commercial potting mix containing 40-50% of composted pine bark. Keep the medium always moist. (Crow 2000)</p>
Length of Establishment	6-8 weeks (Crow 2000)

t Phase	
Active Growth Phase	Replant into a quarter gallon container filled with the same growing medium. Plants will flower 16-18 weeks after sowing. (Crow 2000)
Length of Active Growth Phase	10-12 weeks (Crow 2000)
Hardening Phase	unknown
Length of Hardening Phase	unknown
Harvesting, Storage and Shipping	unknown
Length of Storage	unknown
Guidelines for Outplanting / Performance on Typical Sites	Plant the seedlings into the garden or landscape in well-drained soil with organic matter. Skullcap grows best in slightly acidic (6.2 to 7.0 pH) soil, but grows in a range of soil types with good drainage. When planting, bury the roots and a couple of centimeters of the seedling stems in the soil and tamp the soil down firmly. A location with dappled shade is ideal. (How to Propagate Skullcap." 2017)
Other Comments	none
<b>PROPAGATION DETAILS – DIVISIONS</b>	
Ecotype	Varies
Propagation Goal	Plants
Propagation Method	vegetative
Product Type	Division
Stock Type	unknown
Time to Grow	immediately
Target Specifications	Size that can be immediately replanted and survive (How to Propagate Skullcap." 2017)
Propagule Collection Instructions	Divide in spring just before new growth begins. Select a healthy, mature plant that is sprouting new plants at either side of the central base. (How to Propagate Skullcap." 2017)
Propagule	N/A

Processing/Propagule Characteristics	
Pre-Planting Propagule Treatments	Separate new growth either by cutting into the plant and roots with the sharp spade or hand trowel to divide the plant, or digging up the entire plant and roots and separating the new growth from the mature plant by pulling it apart with your hands. Place the newly separated plants into a bucket with a couple of inches of water in it to avoid stress and drying out of the plant. (How to Propagate Skullcap." 2017)
Growing Area Preparation / Annual Practices for Perennial Crops	<p>The preference is light shade to full sun, wet to moist conditions, and soil with abundant organic matter. Shallow rocky or gravelly soil is tolerated if it retains moisture during dry spells. (<i>Mad-dog</i> 2017) (Baskin and Baskin 1982)</p> <p>Suitable pH: acid, neutral and basic (alkaline) soils. (Baskin and Baskin 1982) Succeeds in a sunny position in any ordinary garden soil that does not dry out during the growing season. Plants are not so long-lived when grown in rich soils. (<i>Pfaf</i> 2017)</p>
Establishment Phase Details	Plant already established
Length of Establishment Phase	Plant already established
Active Growth Phase	N/A
Length of Active Growth Phase	N/A
Hardening Phase	Hardening happens in the field at the end of the growing season
Length of Hardening Phase	Varies
Harvesting, Storage and Shipping	unknown
Length of Storage	unknown
Guidelines for Outplanting / Performance on Typical	Plant the newly separated plants in the garden or in pots, deep enough to accommodate the roots but not burying any foliage. Plant them at least six to 12 inches apart. Tamp the dirt around the roots firmly, and water the plants with a weak fertilizer solution. (How to Propagate Skullcap." 2017)

Sites	
Other Comments	none
<b>INFORMATION SOURCES</b>	
References	<p>Baskin J. M. and C. C. Baskin. 1982. Ecological life cycle and temperature relations of seed germination and bud growth of <i>Scutellaria parvula</i>. Bulletin of the Torrey Botanical Club 109(1): 1-6.</p> <p>Brown, M. L. and R. G. Brown. 1984. Herbaceous plants of Maryland (p. 800). Port City Press, Inc: Baltimore.</p> <p>Christiansen, P. and M. Muller. 1999. An illustrated guide to Iowa prairie plants (p. 126). Iowa City: University of Iowa Press.</p> <p>Correll, D. S. and M. C. Johnston. 1970. Manual of the Vascular Plants of Texas (p. 1350). Renner, TX: Texas Research Foundation.</p> <p>Crow GE and Hellquist CB Fassett NC. 2000. Aquatic and wetland plants of northeastern North America Volume One. Madison, WI: University of Wisconsin Press 536 pp.</p> <p>Deam, C. C. 1940. Flora of Indiana (p. 803). Indianapolis, IN: Department of Conservation, Division of Forestry.</p> <p>"How to Propagate Skullcap." <i>Home Guides   SF Gate</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="http://homeguides.sfgate.com/propagate-skullcap-21691.html">http://homeguides.sfgate.com/propagate-skullcap-21691.html</a>&gt;.</p> <p>Fernald, M. L. 1950. Gray's manual of botany. New York, NY: 8<sup>th</sup> edition. American Book Company.</p> <p>Friesner Herbarium. 2002. Database records: <i>Scutellaria parvula</i>. Butler University. 6 records.</p> <p>Gleason, H. A. and A. Cronquist. 1991. Manual of vascular plants of northeastern United States and adjacent Canada 2nd ed (p. 438). New York: New York Botanical Garden.</p> <p>Holmgren, N. H. 1998. Illustrated companion to Gleason and Cronquist's manual: illustrations of the vascular plants of northeastern United States and adjacent Canada (p. 411). New York: New York Botanical Garden.</p> <p>House, H. D. 1924. Annotated list of the ferns and flowering plants of New York State (p. 593). Albany, NY: The University of the State of New York. <i>Conservation Assessment for Small skullcap (Scutellaria parvula var. parvula)</i> 13</p> <p>Indiana Natural Heritage Database. 2002. Element Occurrence Record: <i>Scutellaria parvula</i> var. <i>parvula</i>. Indiana Department of Natural Resources. 4 records.</p> <p>Jones, G. N. and G. D. Fuller. 1955. Vascular plants of Illinois (p. 415). Springfield, Illinois: The University of Illinois Press and the Illinois State Museum.</p> <p>Kartesz, J. T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland, Vol. 1, 2nd ed. (p. 352-353). Biota of North America Program, North Carolina Botanical Garden. Portland Oregon: Timber Press.</p>

	<p>Klein, I. H. 1970. Wildflowers of Ohio and adjacent states (number 525). Cleveland: The Cleveland Museum of Natural History.</p> <p>Mohlenbrock, R. H. and D. M. Ladd. 1978. Distribution of Illinois Vascular Plants. Carbondale, Illinois: Southern Illinois University Press.</p> <p><i>Pfaf Plant Search</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Scutellaria%2Blateriflora">http://www.pfaf.org/user/Plant.aspx?LatinName=Scutellaria%2Blateriflora</a>&gt;.</p> <p><i>Plants Profile for Scutellaria Lateriflora (blue Skullcap)</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="https://plants.usda.gov/core/profile?symbol=SCLA2">https://plants.usda.gov/core/profile?symbol=SCLA2</a>&gt;.</p> <p>Radford, A. E., H. E. Ahles, and C. R. Bell. 1968. Manual of the vascular flora of the Carolinas (p. 164). Chapel Hill, NC: The University of North Carolina Press.</p> <p>Scoggan, H. J. 1979. The flora of Canada – part 4 (p. 1320). Canada: National Museum of Natural Sciences.</p> <p>"Scutellaria Lateriflora L." <i>Scutellaria Lateriflora (mad Dog Skullcap): Go Botany</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="https://gobotany.newenglandwild.org/species/scutellaria/lateriflora/">https://gobotany.newenglandwild.org/species/scutellaria/lateriflora/</a>&gt;.</p> <p>"Scutellaria Lateriflora (Mad-dog Skullcap)." <i>Prairie Moon Nursery :: Seeds :: Scutellaria Lateriflora (Mad-dog Skullcap)</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="https://www.prairiemoon.com/seeds/wildflowers-forbs/scutellaria-laterifolia-mad-dog-skullcap.html">https://www.prairiemoon.com/seeds/wildflowers-forbs/scutellaria-laterifolia-mad-dog-skullcap.html</a>&gt;.</p> <p>"Scutellaria Lateriflora." <i>Wikipedia</i>. Wikimedia Foundation, 12 May 2017. Web. 24 May 2017. &lt;<a href="https://en.wikipedia.org/wiki/Scutellaria_lateriflora">https://en.wikipedia.org/wiki/Scutellaria_lateriflora</a>&gt;.</p> <p>Smith, E. B. 1994. Keys to the flora of Arkansas (p. 186). The University of Arkansas Press: Fayetteville.</p> <p>South Carolina Natural Heritage Database. 2004. Element Occurrence Record: <i>Scutellaria parvula</i> var. <i>parvula</i>. South Carolina of Natural Resources. 22 records.</p> <p>Stevens, W. C. 1948. Kansas wildflowers (p. 218). Lawrence, KS: University of Kansas Press.</p> <p>Steyermark, J. A. 1963. Flora of Missouri (p. 1276). Ames, IA: Iowa State University Press.</p> <p><i>WTU Herbarium Image Collection - Burke Museum</i>. N.p., n.d. Web. 24 May 2017. &lt;<a href="http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Scutellaria&amp;Species=lateriflora">http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Scutellaria&amp;Species=lateriflora</a>&gt;.</p>
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	<p>Underhill, J. E., and Diana Ottosen. <i>Coastal Lowland Wildflowers</i>. Surrey, B.C.: Hancock House, 1986. Print.</p> <p>Whitney, Stephen, and Rob Sandelin. <i>Field Guide to the Cascades &amp; Olympics</i>. Seattle: Mountaineers, 2003. Print.</p> <p>Whitney, Stephen. <i>A Sierra Club Naturalist's Guide to the Pacific Northwest: Oregon, Washington, Idaho, Western Montana, and the Coastal Forests of Northern California, British Columbia, and Southeastern Alaska</i>. San Francisco, Calif: Sierra Club, 1989. Print.</p>
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