

**Plant Protocol: *Barbarea orthoceras*
ESRM 412**


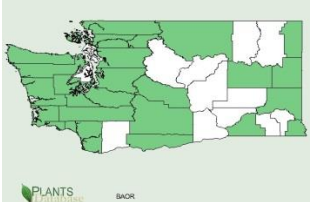


Barbarea orthoceras flower^[20]



Barbarea orthoceras seeds^[19]

TAXONOMY	
Plant Family	
Scientific Name	Brassicaceae ^[1]
Common Name	Mustard family ^[1]
Species Scientific Name	
Scientific Name	<i>Barbarea orthoceras</i> ^[1]
Varieties	<i>Dolichocarpa</i> ^[1]
Sub-species	<i>Barbarea orthoceras</i> subsp. <i>Dolichocarpa</i> (Fernald) Piper & Beattie ^[2]
Cultivar	
Common Synonym(s)	<i>Barbarea americana</i> Rydb. <i>Campe orthoceras</i> (Ledeb.) Heller ^{[3][4]}
Common Name(s)	American yellowrocket ^[1] American wintercress ^[1] Wintercress ^[5] Erectpod wintercress ^[5]
Species Code (as per USDA Plants database)	BAOR ^[5]
GENERAL INFORMATION	

Geographical range	 [6]  [7] <p>North America Washington</p>
Ecological distribution	Swamps or on wet rocks, wetlands, meadows, and riverbanks ^{[8][9]}
Climate and elevation range	Grows in elevations ranging from 100'-2600'. Suitable climates are light sand, medium loamy and heavy clay soils that are neutral to basic in pH. Also preferring semi shady to shaded moist soil. ^{[9][10]}
Local habitat and abundance	Local habitats include lowland forest and meadows, wetlands, and most common along coastlines. While abundances are unclear. ^{[10][11]}
Plant strategy type / successional stage	Grows well in ditches and other disturbed sites and may be considered weedy by some ^[17]
Plant characteristics	Forb/herb that is known to have biennial and perennial growth patterns. The flowers are typically yellow and hermaphroditic growing 25-45 mm in length. While the plant itself has stiff stems and grows around 10 20-60cm branches with leaves that are lobed and alternate with one leaf per node. ^[12]
PROPAGATION DETAILS	
Ecotype	N/A ^[14/17]
Propagation Goal	N/A ^[14/17]
Propagation Method	Seeds ^[14]
Product Type	Seeds ^[14]
Stock Type	Seeds ^[14]
Time to Grow	Early spring is the best season for growth, needing a moist well-drained soil and 2hrs of direct sunlight. ^[16] No data on how long it takes for seeds to germinate.
Target Specifications	Mature height ranges from 8-24in with bright yellow flowers blooming May-June. ^[17]
Propagule Collection Instructions	Propagate plants in early spring under sun or shaded areas in moist-well drained soil ^[15]
Propagule Processing/Propagule Characteristics	N/A ^[18]
Pre-Planting Propagule Treatments	N/A ^[13]
Growing Area Preparation / Annual Practices for Perennial Crops	N/A ^[13]
Establishment Phase Details	N/A ^[17]
Length of Establishment Phase	2-4 weeks in cold moist stratification ^[17]

Active Growth Phase	N/A ^[17]
Length of Active Growth Phase	N/A ^[17]
Hardening Phase	N/A ^[17/18]
Length of Hardening Phase	N/A ^[18]
Harvesting, Storage and Shipping	N/A ^[18]
Length of Storage	N/A ^[18]
Guidelines for Outplanting / Performance on Typical Sites	Typically grow best in cool moist habitats with well-drained soils. ^[17]
Other Comments	Not much info was found for seed germination and storage but the species.
INFORMATION SOURCES	
References	Listed below
Other Sources Consulted	
Protocol Author	Travis Pederson
Date Protocol Created or Updated	04/21/2014

Resources:

[1]: USDA Plant Database, *Barbarea orthoceras*: <http://plants.usda.gov/core/profile?symbol=BAOR>

[2]: The Global Biodiversity Information Facility: GBIF Backbone Taxonomy, 2013-07-01: <http://www.gbif.org/species/5551321>

[3]: Reed C. Rollins (1993) Cruciferae of continental north America, Hort. Dorp. 2. 1824. [http://books.google.com/books?id=J27W9DvrFywC&pg=PA219&lpg=PA219&dq=Campe+orthoceras+\(Ledeb.\)+Heller&source=bl&ots=9FhTBs4kyL&sig=99N1816opfB-qWZQJPmUpI9EA-o&hl=en&sa=X&ei=yypOU4HMOuPayAGi8YCoDQ&ved=0CFwQ6AEwCw#v=onepage&q=Campe%20orthoceras%20\(Ledeb.\)%20Heller&f=false](http://books.google.com/books?id=J27W9DvrFywC&pg=PA219&lpg=PA219&dq=Campe+orthoceras+(Ledeb.)+Heller&source=bl&ots=9FhTBs4kyL&sig=99N1816opfB-qWZQJPmUpI9EA-o&hl=en&sa=X&ei=yypOU4HMOuPayAGi8YCoDQ&ved=0CFwQ6AEwCw#v=onepage&q=Campe%20orthoceras%20(Ledeb.)%20Heller&f=false)

[4]: The Global Biodiversity Information Facility: GBIF Backbone Taxonomy, 2013-07-01: <http://www.gbif.org/species/3044572>

[5]: Joseph M. DiTomaso (May 4, 2010) American yellow rocket *Barbarea orthoceras* Ledeb <http://www.ipmimages.org/browse/subinfo.cfm?sub=5172>

[6]: USDA Plant database: <http://plants.usda.gov/core/profile?symbol=BAOR>

[7]: USDA Plant database: http://plants.usda.gov/java/county?state_name=Washington&statefips=53&symbol=BAOR

[8]: USDA Plant database: <http://plants.usda.gov/core/profile?symbol=BAOR>

[9]: Plants For a Future: *Barbarea orthoceras* Ledeb. <http://www.pfaf.org/user/Plant.aspx?LatinName=Barbarea+orthoceras>

[10]: Paul Slichter (April 27, 1997) American Wintercress, American Yellowrocket, American Yellow-rocket (<http://science.halleyhosting.com/nature/gorge/4petal/must/barbarea/amwinter.htm>)

- [11]: Muller: gen; wet open areas, roadsides, beaches (March 12, 2013)
http://wiki.seaknature.org/Barbarea_orthoceras
- [12]: Klinkenberg, Brian (Editor) 2013. E-Flora BC: Klinkenberg, Brian, *Barbarea orthoceras* Ledeb.
<http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Barbarea%20orthoceras>
- [13]: North Fork Cottage Garden, winter cress :
<http://www.norfolkcottagegarden.co.uk/shop/item/Barbarea-orthoceras>
- [14]: B. Newhouse (Jan. 2001) Willamette Valley Native Nectar Plants for Butterflies
<http://www.naba.org/chapters/nabaes/btrfly-gdng4.html>
- [15]: Evergreen State college: Puget Prairie Plants, *Barbarea orthoceras* (May 22, 2012)
http://wikis.evergreen.edu/pugetprairieplants/index.php/Barbarea_orthoceras
- [16]: Garden Away: *Barbarea orthoceras* , http://gardenaway.com/search/plant_view/barbarea-orthoceras
- [17]: Maguire, James D., and Alvin Overland. 1959. Laboratory Germination of Seeds of Weedy and Native Plants. Washington State Agricultural Experiment Station Circular 349, Pullman, WA. 15 p. & Pocewicz, Amy. 2005. Host Plants of Palouse Butterfly Species.
<http://dev.palouseprairie.org/plants/plantdb/PPFplants.php?USDA=BAOR>
- [18]: Association of Official Seed Analysis (AOSA) (April 2007)
http://www.aosaseed.com/docs/070426_Species_wo_AOSA_list_plus_adds.pdf
- [19]: Evergreen State college: Puget Prairie Plants, *Barbarea orthoceras* seeds
http://wikis.evergreen.edu/pugetprairieplants/images/thumb/1/10/Barbarea_orthoceras.jpg/250px-Barbarea_orthoceras.jpg
- [20]: Ron Vanderhoff. San Juan Loop Trail, (April 5, 2012)
<http://nathistoc.bio.uci.edu/plants/Brassicaceae/Barbarea%20orthoceras/Barbarea%20orthoceras.htm>