

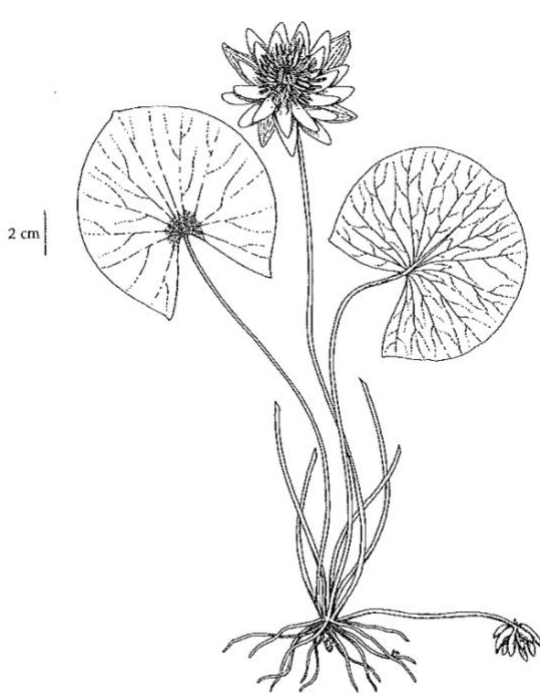


## Plant Propagation Protocol for *Nymphaea mexicana*

ESRM 412 – Native Plant Production

URL: [https://courses.washington.edu/esrm412/protocols/\[year\]/\[USDA Species Code.pdf\]](https://courses.washington.edu/esrm412/protocols/[year]/[USDA Species Code.pdf])

TAXONOMY	
Plant Family	
Scientific Name	Nymphaeaceae
Common Name	Waterlily family
Species Scientific Name	
Scientific Name	<i>Nymphaea mexicana</i> Zucc.
Varieties	None listed.
Sub-species	None listed.
Cultivar	
Common Synonym(s)	<i>Castalia flava</i> (Leitner) Greene
Common Name(s)	Yellow waterlily, banana waterlily
Species Code (as per USDA Plants database)	NYME
GENERAL INFORMATION	
Geographical range	  <p>Source: USDA Plants Database</p>
Ecological distribution	Lakes, ponds, and slow streams in lowland zone. <sup>2</sup> First discovered in Mexico, but also native to Southeastern US and California. <sup>1,3,4</sup> Rare on Vancouver Island, BC. <sup>2</sup>

Climate and elevation range	Elevation less than 1100 m. <sup>5</sup>
Local habitat and abundance	Alkaline lakes, ponds, springs, marshes, sloughs, slow streams, ditches, canals. Distribution associated with winter range canvasback ducks ( <i>Aythya valisineria</i> ) that feed on the yellow waterlily. Forms natural hybrids with the white waterlily ( <i>Nymphaea odorata</i> ). <sup>5</sup>
Plant strategy type / successional stage	Aquatic weedy/colonizer. <sup>5,7</sup>
Plant characteristics	<p>Long-lived perennial herb. Stems submerged to floating with erect rhizomes up to 30cm in length. Inflorescence of bright flowers that open from 11 am to 4 pm.<sup>2,9</sup> Flowers floating or raised slightly from surface of water.<sup>3</sup></p>  <p style="text-align: center;"><i>Nymphaea mexicana</i></p>

Source: *Illustrated Flora of British Columbia*

### PROPAGATION DETAILS

Ecotype	Not applicable
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Bareroot
Stock Type	
Time to Grow	No information available.
Target Specifications	Hardy plant with overwintering roots.
Propagule Collection Instructions	Collect the waterlily from the water source after the first growing season in the upcoming spring. Divide rhizomes, each with a young shoot and enough fibrous roots. <sup>8,10</sup>

Propagule Processing/Propagule Characteristics	Each plant should have a young shoot and lots of fibrous roots before propagating. <sup>8,10</sup>
Pre-Planting Propagule Treatments	Place plants into aquatic baskets with some aquatic compost. <sup>8,10</sup>
Growing Area Preparation / Annual Practices for Perennial Crops	Waters with pH 5.0 to 9.0 and areas of calm waters with little to no shade. <sup>1,2</sup>
Establishment Phase Details	Plant in late spring. Aquatic baskets should be placed in shallow waters until fresh leaves are visible. <sup>8</sup>
Length of Establishment Phase	No information available.
Active Growth Phase	Bloom period is through spring, flowers are floating or rising above water. <sup>1,3</sup> Move the aquatic baskets to deeper depths as the plant continues to grow. <sup>8</sup>
Length of Active Growth Phase	From spring to winter dormancy. <sup>1,8</sup>
Hardening Phase	Evidence of overwintering roots that have the appearance of tiny bananas at terminal nodes. <sup>5</sup> This appearance is why the species is also referred to as the banana waterlily. Remove fading foliage as plant enters winter dormancy. <sup>8</sup>
Length of Hardening Phase	Late autumn before entering winter dormancy.
Harvesting, Storage and Shipping	Difficult to transplant. <sup>6</sup> No other information available.
Length of Storage	No information available.
Guidelines for Outplanting / Performance on Typical Sites	Difficult to establish and difficult to transplant, plant directly at site. <sup>6</sup> No other information available.
Other Comments	
<b>INFORMATION SOURCES</b>	
References	<sup>1</sup> <i>Nymphaea mexicana</i> Zucc. (n.d.). USDA Plants Database. Retrieved May 23, 2023, from <a href="https://plants.usda.gov/home/plantProfile?symbol=NYME">https://plants.usda.gov/home/plantProfile?symbol=NYME</a> <sup>2</sup> Douglas, G.W., D.V. Meidinger, and J. Pojar (editors). 1999. <i>Illustrated Flora of British Columbia. Volume 3: Dicotyledons (Diapensiaceae Through Onagraceae)</i> . B.C. Ministry of Environment, Lands & Parks and B.C. Ministry of Forests. Victoria. 423 p. <sup>3</sup> TWC Staff. (2023, February 21). <i>Nymphaea mexicana</i> (Yellow

	<p>waterlily). UT Austin - Lady Bird Johnson Wildflower Center. <a href="https://www.wildflower.org/plants/result.php?id_plant=NYME">https://www.wildflower.org/plants/result.php?id_plant=NYME</a></p> <p><sup>4</sup><i>Nymphaea mexicana</i>. (n.d.). The Jepson Herbarium. Retrieved May 23, 2023, from <a href="https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=34797">https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=34797</a></p> <p><sup>5</sup>Wiersema, J. H., &amp; Hellquist, C. B. (2020, November 5). <i>Nymphaea mexicana</i>. Flora of North America. <a href="http://floranorthamerica.org/Nymphaea_mexicana">http://floranorthamerica.org/Nymphaea mexicana</a></p> <p><sup>6</sup>Cely J.E. (1979). The ecology and distribution of banana waterlily and its utilization by canvasback ducks. <i>Proceedings of the Annual Conference, Southeastern Association of Game and Fish Commissioners</i>.</p> <p><sup>7</sup>Capperino, M. E., &amp; Schneider, E. L. (1985). Floral biology of <i>Nymphaea mexicana</i> zucc. (Nymphaeaceae). <i>Aquatic Botany</i>, 23(1), 83–93. <a href="https://doi.org/10.1016/0304-3770(85)90022-1">https://doi.org/10.1016/0304-3770(85)90022-1</a></p> <p><sup>8</sup><i>How to grow waterlilies</i>. (n.d.). The Royal Horticultural Society. Retrieved May 22, 2023, from <a href="http://www.rhs.org.uk/plants/waterlilies/growing-guide">http://www.rhs.org.uk/plants/waterlilies/growing-guide</a></p> <p><sup>9</sup>Conard, H. S. (1905). <i>The waterlilies: A Monograph of the Genus Nymphaea</i> (pp. 1–424). The Carnegie Institution of Washington. <a href="https://www.biodiversitylibrary.org/item/64590">https://www.biodiversitylibrary.org/item/64590</a></p> <p><sup>10</sup>Kane, M. (2022, December 13). <i>Propagation of Water Garden Plants: The Waterlilies</i>. UF Wilmot Botanical Gardens. <a href="https://wilmotgardens.med.ufl.edu/2022/12/13/tips-from-the-plant-prop-shop-propagation-of-water-garden-plants-the-waterlilies/">https://wilmotgardens.med.ufl.edu/2022/12/13/tips-from-the-plant-prop-shop-propagation-of-water-garden-plants-the-waterlilies/</a></p>
Other Sources Consulted	
Protocol Author	Lindsey Austin
Date Protocol Created or Updated	05-24-2023