

Red-fruited lomatium (*Lomatium erythrocarpum*)



ENDANGERED



Fruit/habit (left) and habitat (right) of red-fruited lomatium. Photos by Robert Meinke. If downloading images from this website, please credit the photographer.

Family

Apiaceae

Plant description

Red-fruited lomatium is a perennial species, acaulescent or very short-stemmed, and glabrous throughout. This is a diminutive plant, growing to only 2-7 cm tall, including the flowering stalk. Stems, petioles, and peduncles are often purplish. There are usually 1-3 olive-green glaucous leaves that are highly divided, the rachis broadly winged, the blade 1.0-3.5 cm long and 0.5-2.7 cm wide when expanded, and the petiole 0.4-2.0 cm long. Leaves lie flat against the substrate. Flowers are borne in umbels and are white or purplish. Fruits are glossy, often reddish when mature, oblong-elliptic, and 0.7-0.9 cm long by 0.4-0.5 cm wide.

Distinguishing characteristics

Three additional subalpine and alpine *Lomatium* species (*L. cusickii*, *L. greenmanii*, and *L. oreganum*) also occur in eastern Oregon. Red-fruited lomatium is either stemless or bears a very small pseudo-stem, does not occur in mats, and has only 1-3 leaves. All other subalpine and alpine *Lomatium* species in eastern Oregon either have a well-developed stem or occur in mats and have numerous leaves.

When to survey

Surveys for this species should be completed during flowering and/or fruiting when the plants are most conspicuous. Flowering typically begins in June, with the emergence of leaves occurring at the same time or shortly afterwards. Fruits mature by mid-July and mericarps drop by late July or early August.

Habitat

This species occurs on dry, gravelly or talus-covered south-facing slopes at elevations of 2300 m (7600 ft) and above. It can be found in the transition between the shrub-steppe and subalpine woodland zones in areas with full sun. The shrub-steppe zone is dominated by *Cercocarpus ledifolius* and *Artemisia tridentata* and the subalpine

woodlands by *Pinus albicaulis* and *Picea engelmannii*. Other species associated with red-fruited lomatium include *Lupinus caudatus*, *Polygonum phytolaccaefolium*, *Castilleja applegatei*, *Haplopappus lyallii*, *Linum lewisii*, *Lomatium cusickii*, *Viola purpurea*, *Pteryxia terebinthina*, *Kellogia galioides*, *Phlox austromontana*, *Phacelia hastata*, *Collomia debilis*, *Arenaria aculeata*, and *Trisetum spicatum*.

Range

The range of this species is limited to the central Elkhorn Ridge of the Blue Mountains in northeastern Oregon. There are six known occurrences of the species, the smallest consisting of only about 30 individuals, the largest of as many as 6900 individuals. All populations occur on land managed by the U.S. Forest Service and designated as roadless areas.

Oregon counties

Baker

Federal status

Species of Concern

Threats

The main threats to this species are due to impacts from mountain goats and hiking trails. Trampling, grazing, and dust-wallowing by mountain goats may destroy plants and degrade habitat; negative impacts from mountain goat trails have been observed at two red-fruited lomatium sites. Hiking trails were constructed through four sites containing this rare species prior to its discovery, and trampling by hikers is a concern.

Did you know?

Red-fruited lomatium flowers early for a high-elevation species, generally 2-4 weeks before other local species within the Apiaceae that occur at similar elevations. This is likely a result of the drier, warmer microclimate of the south slopes on which red-fruited lomatium occurs, as well as leaf morphology and orientation. The numerous, overlapping leaf divisions and winged rachises maximize the photosynthetic surface of the leaves, and substrate-conforming foliage results in leaf temperatures several degrees above the ambient temperature, factors which probably contribute to increased growth rates and early reproduction.

References

Meinke, R.J. and L. Constance. 1984. A new subalpine species of *Lomatium* from eastern Oregon. *Bulletin of the Torrey Botanical Club*. 111:222-226.

ORNHIC (Oregon Natural Heritage Information Center). 2007. Rare, threatened and endangered species of Oregon. Oregon Natural Heritage Information Center, Oregon State University, Portland, Oregon.

ORNHIC (Oregon Natural Heritage Information Center). 2010. ORNHIC element occurrence database. Portland, Oregon.

Yates, Gene. 2005. Final report: *Lomatium erythrocarpum* survey. Unpublished report. Wallowa-Whitman National Forest, Baker City, Oregon. Available at <http://www.fs.fed.us/r6/sfpnw/isssp/documents/inventories/inv-rpt-va-loer-waw-surveys-2005-10.pdf> (pdf document, 1.23 MB). Accessed September 24, 2010.

Yates, Gene. 2006. *Lomatium erythrocarpum* monitoring. Unpublished report. Wallowa-Whitman National Forest, Baker City, Oregon. Available at <http://www.fs.fed.us/r6/sfpnw/issssp/documents/inventories/inv-rpt-va-loer-waw-monitoring-2006-09.pdf> (pdf document, 563 kB). Accessed September 24, 2010.