Bentonite biscuitroot
(*Lomatium bentonitum*)

OREGON DEPARTMENT OF AGRICULTURE

ENDANGERED

Habit (left) and habitat (right) of bentonite biscuitroot. Photos by Dan Mansfield (left; Mansfield 2015) and ODA staff (right). If downloading images from this website, please credit the photographer.

Family

Apiaceae

Plant description

Bentonite lomatium is a perennial species, acaulescent or very short-stemmed, with round thickened tubers (about 1-4 cm diameter) that abruptly taper to an elongated (<10 cm long) slender upper portion. This diminutive plant can have an unbranched or 2-7 branched caudex, with fibrous remains of previous years' leaf sheaths, and short 0.5-1 cm stems and 1-4 cm long pseudoscapes that are below ground surface and obscured by leaf sheaths. Herbage varies from lightly to densely hirsutulous (pubescent with very small, coarse, stiff hairs), with leaves 3-6 cm long and 2-5 cm wide, generally ovate in outline and tripinnately dissected. The 1-6 pubescent flowering stems can be decumbent or more erect and ascending, 3-10 cm long, though most are spreading on the ground at maturity alongside the short petiole (3-6 mm) leaves. Inflorescences remain fairly compact at maturity, with the 3-20 rays elongating unequally to 1-5 cm, but not becoming easily distinguishable from one another. No involucral bracts, but with 4-8 involucel bractlets that are linear to lanceolate and 2-5 x 0.3-1 mm, with scarious margins. Umbellets hold 10-20 white or purple flowers with purple anthers on pedicels 2-10 mm long. Fruits are sparsely puberulent, oval or suborbicular, 4-8 mm long and 2-3 mm wide.

Distinguishing characteristics

A similar species, *Lomatium ravenii* var. *paiutensis* (Paiute desertparsley), occurs near *L. bentonitum*, but

not on bentonite-rich outcrops. Mansfield (2015) reports bentonite desertparsley also has more planar leaves, which are less hairy, making the plant appear more green than gray. Another difference is the root of *L. bentonitum* narrows abruptly compared to the tapering root of *L. ravenii* var. *paiutensis*, although digging plants should be avoided. *Cymopterus acaulis* var. *greeleyorum* can also be confused for bentonite lomatium but can be differentiated by the presence of multiple elaborated wings on the fruits.

See Mansfield (2015) for a key to the low-growing, tufted desertparsleys, springparsleys, and related biscuitroots of SE Oregon and SW Idaho.

When to survey

Surveys should be completed from April through May, when the plant is in flower, though *L. bentonitum* can be differentiated from *Cymopterus acaulis* var. *greelyorum* when in seed.

Habitat

Lomatium bentonitum is an edaphic endemic of southeastern Oregon, found only in "azonal soils on outcrops of Miocene ash of the Sucker Creek Formation in Succor Creek drainage where light colored ash has weathered to bentonite clay, a shrink-swell clay with tremendous capacity to absorb water" (Mansfield 2015). *Lomatium bentonitum* co-occurs with *Artemisia tridentata, Ericameria nauseosa, Poa secunda* ssp. *secunda*, and *Lewisia rediviva.*

Range

Lomatium bentonitum is endemic to the Succor Creek area of Malheur County, Oregon.

Oregon counties

Malheur

Federal status

Species of concern

Threats

The greatest threat to *Lomatium bentonitum* is from potential mining of the bentonite quarry. Habitat disturbance from recreation, such as off-road vehicles, is evident around sites. While minimal foot traffic may spread seed and be beneficial to the plants, vehicle use may impart more severe and permanent disturbance that plants cannot survive. Small population size is another concern as it can reduce genetic diversity and reproductive success. Climate change also has the potential to decrease survivability of the species.

Did you know?

Lomatium bentonitum is a cryptic species, only recently discovered when scientists were researching the taxonomic relationships of white-flowered *Lomatium* (typically referred to as *L. ravenii*) in southern Idaho and Oregon associated with *L. nevadense* and *L. foeniculaceum.*

References

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