Greenman's desert parsley (*Lomatium greenmanii*)

THREATENED

Flowers (left), habit (center), and habitat (right) of Greenman's desert parsley. Photos by Rebecca Currin (left and right) and ODA staff (center). If downloading images from this website, please credit the photographer.

Family
Apiaceae

Plant description
Greenman's desert parsley is a dwarf perennial, 3-10 cm tall, with slender stems generally bearing a single more or less reduced leaf. Plants become etiolated and considerably taller when occurring in shaded sites. Leaves are chiefly basal, slightly leathery, glabrous, and pinnately or bipinnately divided with lanceolate–ovate leaflets 3-15 mm long by up to 2.5 mm wide. Flowers are small, bright yellow, and occur in tight 0.5-1.2 cm umbellate clusters at the end of the stems, with rays 1-6 mm long. Flowers are borne close to the ground on small plants and are elevated on larger plants. The oval, 3.0-3.5 mm-long fruits are only slightly flattened, and split into halves when completely ripe.

Distinguishing characteristics
Several species within the family Apiaceae are similar in appearance to Greenman's desert parsley and are known to occur within its range. *Lomatium oreganum* most closely resembles *L. greenmanii* but is distinguished by its generally hairy foliage, matted habit, and lack of stems, whereas *L. greenmanii* has glabrous foliage, is not matted, and has distinct stems. In addition, *L. oreganum* is most often found in previously glaciated sites on substrates of rough granitic sand or loose granodiorite talus on ridges of timberless zones, while *L. greenmanii* typically occurs in less severe habitats on gentle, open slopes within a mosaic of subalpine forest and moist meadows.

Lomatium cusickii is quite similar in form to Greenman's desert parsley, and inhabits many of the same sites, but has white or purplish flowers and oblong, obviously winged fruits 7-15 mm long, compared to the yellow flowers and much smaller ovate, narrowly winged fruits of the latter species. The yellow-flowered *Cymopterus terebinthinus* var. *foeniculaceus* also occurs in the Wallowa Mountains, but is distinguished by its usually taller stature (10-45 cm), and ternate then bipinnately divided leaves, which give plants of this species a decidedly lacier look than *L. greenmanii*.

Several other yellow-flowered desert parsleys usually found at lower elevations have been collected from the Mount Howard area. *Lomatium triternatum* grows from 15-100 cm tall, is generally soft-hairy, and has linear leaflets. *Lomatium cous* has distinctive ovate bractlets beneath the umbellets (compared to the linear or lanceolate bractlets of *L. greenmanii*), and *L. serpentinum* is a taller plant (15-40 cm) with lacey foliage and 5.5-10.0 mm-long fruits.

When to survey
Due to difficulties differentiating Greenman's desert parsley from similar species occurring within the same habitat, surveys should be completed when both flowers and fruit are available, usually mid-July to early August. Flowering typically begins soon after snowmelt and continues for several weeks.

Habitat
Lomatium greenmanii is found on moist subalpine ridges and rock summits at elevations of 2370-2700 m (7760-8870 ft) in the Wallowa Mountains. This landscape is composed of windswept knolls and ridges, with *L. greenmanii* occurring in fine soils overlying protruding fragments of granite. Plants generally prefer full sun, though some have been found under the shade of conifers. Soils are derived from basalt and/or greenstone.

Associated species include *Eremogone congesta, Oreostemma alpigenum, Calyptridium umbellatum, Castilleja chrysantha, Erigeron chrysopsidis* var. *brevifolius, Eriogonum flavum, Eriogonum ovalifolium* var. *depressum, Festuca viridula, Heuchera cylindrica* var. *alpina, Ivesia gordonii, Lomatium cusickii, Oxytropis campestris, Pedicularis contorta, Pinus albicaulis, Potentilla ovina, Solidago multiradiata* and *Trisetum spicatum,* as well as lichens and mosses.

Range
The species is restricted to Mt. Howard and its vicinity, Ruby Peak, and Redmont Peak in the Wallowa Mountains in northeastern Oregon. All populations are on U.S. Forest Service land.

Oregon counties
Wallowa

Federal status
Species of Concern

Threats
Wallowa Lake Tramway is a tourist attraction that provides access to hiking trails and a restaurant located atop Mt. Howard. Trampling by recreationists is likely the principal threat to Greenman's desert parsley, and studies have shown a clear correlation between high levels of trampling and reduced density of the species. Continued trampling and the development of recreational trails and facilities at this site could have significant deleterious effects on Mt. Howard occurrences of *Lomatium greenmanii*. Other potential threats to the species include off-road vehicle use, herbivory by small mammals, exotic plant invasions, trail maintenance activities, fire suppression activities, and Tramway operational activities.

Conservation planning
A Candidate Conservation Agreement for Greenman's desert parsley was updated by the U.S. Forest Service and U.S. Fish and Wildlife Service in 2007.

Did you know?
Lomatium greenmanii was described in 1938, based on a specimen collected in 1900 at a location called "Keystone Creek" in the Wallowa Mountains, and named in honor of Dr. J. M. Greenman of the Missouri Botanical Garden. Later attempts to re-locate the site of the original collection (or any location in the Wallowas called Keystone Creek) were unsuccessful, and *L. greemnanii* was thought to be extinct. Fortunately, it was unexpectedly rediscovered on Mount Howard in 1975.

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