

Added to California Rare Plant Rank 2B.2 of the CNPS Inventory on July 10, 2019**Rare Plant Status Review: *Muhlenbergia utilis*****Proposed Addition to California Rare Plant Rank 2B.2, G4 / S2S3**

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Changes made to the original document are in blue text.

Background and Taxonomy

Muhlenbergia utilis (Torr.) Hitchc. is a perennial, rhizomatous herb in the Poaceae known mostly from the southern coast in California, east to Texas in the United States, and south to Central America (Peterson 2003, 2012; SEINet 2019). It is included in the *Jepson eFlora* (Peterson 2012) and *Flora of North America North of Mexico* (Peterson 2003). In California, *Muhlenbergia utilis* is perhaps most similar to *M. richardsonis* based on its key break with this species in the *Jepson eFlora*; it is differentiated in having a ligule that is less than 1 mm (vs. 2-2.5 mm), and an inflorescence axis that is generally visible between branches (vs. being generally obscured by branches in *M. richardsonis*) (Peterson 2012). It is noted to be allied to *M. repens* (Hitchcock 1933), a species known from Arizona to southern Mexico that appears to occupy drier habitats (Peterson 2003). The epithet *utilis* stands for “useful” (Charters 2019), which is in reference to it being “used by the natives for stuffing pads for loaded mules, its soft thread-like culms making it admirably fit for this purpose” (Torrey 1857).

Ecology

Muhlenbergia utilis occurs along creeks, streams, meadows, seeps, springs, lakes and ponds, and other damp or wet areas, typically within broader chaparral and coastal scrub habitats, and occasionally in cismontane woodland. It is sometimes found in alkaline soils, and rarely in serpentine (noted from serpentine in two records from Monterey County only). In California, *M. utilis* occurs at an approximate elevation of 25 to 2,325 meters and is known to bloom from October to March (Consortium of California Herbaria 2019; Peterson 2012).

Distribution and Abundance

The type of *M. utilis* is described from stony places between Tejon Pass and the Lost Hills of California (*Blake s.n.* GH23997, NY431757, SEINET10954278) (Torrey 1857; CCH 2019; Tropicos 2019). It is currently known from 19 48 occurrences in California, with a scattered distribution, including the type from between Tejon Pass and Lost Hills, an occurrence in Death Valley, and most occurrences found along the central and south coast. The consistent thread is its occurrence in small wetlands. Of the 19 48 occurrences, 12 (ca. 63% 67%) are considered historical (occurrences not seen in over 20 years are considered historical by CNDDDB). Two occurrences are located in the Los Padres National Forest, one is located in the Sierra National Forest, one is in the Lopez Lake Recreation Park and Natural Area, one is located in Death Valley National Park, one is on Camp San Luis Obispo (California National Guard), and the other 13 occurrences are located on land of unknown ownership.

Due to its potential similarity to *M. richardsonis* and possibly other *Muhlenbergia* species, and the general assumption that California grasses are typically under-surveyed, additional occurrences of *M. utilis* are expected to exist in California. It’s scattered, infrequent distribution

from San Luis Obispo County south to San Bernardino County, and east to Inyo County, also seems to support the notion that it's underreported. Nevertheless, it appears to occupy a relatively restricted habitat, and further field surveys and documentation are necessary in order to elucidate this assumption.

There is a potential for *M. utilis* to occur in Sierra County or other areas in the vicinity of Lake Tahoe in the northern High Sierra Nevada based on two collections just across the California border from Washoe County, Nevada (*Williams and Tiehm 74-57-5*, RENO30950 and *Williams et al. 74-200-11*, RENO30961; SEINet 2019). Field surveys should also occur in wet areas throughout this region to potentially discover new occurrences.

Status and Threats

Muhlenbergia utilis is considered Vulnerable (S3) in Texas, and is not ranked in Nevada, Arizona, or New Mexico (NatureServe 2019). One occurrence of *M. utilis* (record 3) from Red Hill, San Bernardino County, is presumed extirpated due to urban development (N. Jensen pers. comm. 2014). Occurrences on Tejon Ranch (records 1, 14, 16-18) are potentially threatened by grazing or an alteration of the grazing regime (N. Jensen pers. comm. 2019).

Summary

Based on the available information, CNPS and CNDDDB recommend adding *Muhlenbergia utilis* to California Rare Plant Rank 2B.2 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *M. utilis* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add *Muhlenbergia utilis* to CRPR 2B.2

CNDDDB: Add *Muhlenbergia utilis* to G4 / S2S3

Draft CNPS Inventory Record

Muhlenbergia utilis (Torr.) Hitchc.

[aparejo](#) ~~Aparejo~~ grass

Poaceae

CRPR 2B.2

Inyo, Kern, Monterey, San Bernardino, San Luis Obispo, Santa Barbara, Ventura

Arizona, Nevada, New Mexico, Texas; Sonora, Mexico

Guasti (108D) 3411715, White Ledge Peak (141B) 3411944, Old Man Mountain (166C) 3411954, Los Alamos (170A) 3412063, Liebre Twins (188A) 3411885, Winters Ridge (188B) 3411886, La Liebre Ranch (188C) 3411876, Tar Spring Ridge (220B) 3512024, Buttonwillow (241B) 3511944, [San Luis Obispo \(246C\) 3512036](#), Morro Bay South (247D) 3512037, Burnett Peak (295C) 3512172, Burro Mountain (296D) 3512173, Kearsarge Peak (373D) 3611873, Sand Spring (390A) 3711725, Balloon Dome (416B) 3711942

Meadows and seeps, marshes and swamps, chaparral, coastal scrub, cismontane woodland / sometimes alkaline, [sometimes rarely](#) serpentinite; elevation 25-2325 meters.

Perennial rhizomatous herb. Blooms [March to October to March](#).

Threatened by development. Potentially threatened by grazing. See *Pacif. Railr. Rep.* 5(2):365-366 (1857) for original description, and *Journal of the Washington Academy of Sciences* 23(10):453 (1933) for revised nomenclature.

Literature Cited

Charters, M. 2019. Botanical Names. Website

<http://www.calflora.net/botanicalnames/index2.html> [accessed 24 April 2019].

Consortium of California Herbaria. 2019. Data provided by the participants of the Consortium of California Herbaria. Regents of the University of California, Berkeley. Website

<http://ucjeps.berkeley.edu/consortium/> [accessed 24 April 2019].

Hitchcock, A. S. 1933. New species and new names of grasses from Texas. *Journal of the Washington Academy of Sciences* 23(10): 449-456.

NatureServe. 2019. NatureServe Explorer: An online encyclopedia of life [web application].

Version 7.1. NatureServe, Arlington, Virginia. Website <http://explorer.natureserve.org/> [accessed 24 April 2019].

Peterson, P. 2003. *Muhlenbergia*. Pp. 145-200 in Flora of North America Editorial Committee (eds.), *Flora of North America North of Mexico*, Vol. 25. New York and Oxford.

_____. 2012. *Muhlenbergia*. In: Jepson Flora Project (eds.), *Jepson eFlora*.

Website <http://ucjeps.berkeley.edu/IJM.html> [accessed 24 April 2019].

SEINet. 2019. Symbiota. Website <http://swbiodiversity.org/seinet/index.php> [accessed 24 April 2019].

Torrey, J. 1857. Descriptions of plants collected along the route, by W. P. Blake, and at the mouth of the Gila. Article VII. *Reports of explorations and surveys: to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, made under the direction of the Secretary of War* 5(2): 365–366. (Original description.)

Tropicos. 2019. Missouri Botanical Garden. Website <http://www.tropicos.org> [accessed 24 April 2019].