

Added to California Rare Plant Rank 1B.2 of the CNPS Inventory on June 6, 2016**Rare Plant Status Review: *Carex xerophila*
Proposed Addition to CRPR 1B.2, G2G3 / S2S3**

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Changes made to the original document are in blue text.

Background

Carex xerophila is a cespitose perennial herb in the Cyperaceae that is endemic to the northern and central Sierra Nevada of California. The plant was recently described by Zika et al. (2014), and was therefore not included in earlier publications, such as *The Jepson Manual* (Mastrogioseppe 1993), *The Jepson Manual, Second Edition* (Zika et al. 2012) and *Flora of North America* (Ball and Reznicek 2002). However, *C. xerophila* is currently included in the Jepson eFlora (Zika et al. 2016). *Carex xerophila* is included in *Carex* section *Acrocystis*; the only species within this section that have multi-nerved perigynia and are found in California include *C. xerophila* and the related species *C. brainerdii* and *C. globosa* (Zika et al. 2014). *Carex xerophila* differs from these other taxa in its shorter, more erect basal pistillate spikes, its narrower perigynia, its shorter perigynium stipes, and its more xeric habitat (Zika et al. 2014). *Carex xerophila* has a similar habit to *C. rossii* and *C. deflexa* var. *boottii*; however, the latter taxa both have perigynia that lack veins on the faces, pistillate scales that typically have a single vein (versus three usually seen in *C. xerophila*), and grow at higher elevations than *C. xerophila*. A plant very similar to *Carex xerophila*, possibly represents an undescribed taxon, is known from the San Bernardino and San Gabriel Mountains. Compared to the undescribed plant, *C. xerophila* has a longer perigynium stipe (in relation to the beak), more nerves on the pistillate scales, shorter perigynium beaks, as well as earlier phenology and a lower elevation range. The fruits of *Carex xerophila* mature from late March to early June (Zika et al. 2014).

Carex xerophila is a dryland sedge that occurs in chaparral, cismontane woodland, and lower montane coniferous forest. It is restricted to gabbro and serpentinite soils, and is frequently found in association with *Hesperocyparis macnabiana* (Zika et al. 2014; Consortium of California Herbaria, CCH, 2015). Anecdotal evidence suggests that *Carex xerophila* may respond poorly to disturbance in the form of wildfire: at the Pine Hill Preserve in El Dorado County, *C. xerophila* was absent in a recently burned area, but “sparingly present on the adjacent shrubby ridgeline” (Zika et al. 2014). *Carex xerophila* grows between 440 and 770 meters in elevation.

There are approximately 15 known occurrences of *Carex xerophila*, found in four main population centers throughout the northern and central Sierra Nevada foothills. The population centers include the Magalia area serpentines in Butte County, the Brownsville gabbro area in Yuba County, the Osceola Ridge gabbro area in Nevada County, and the Pine Hill Preserve in El Dorado County. Janeway (pers. comm. 2015) did a thorough search of the CCH database for specimens on serpentine or gabbro in

the Sierra Nevada, and the discovery of additional existing herbarium material is therefore unlikely. All occurrences are recent, having been seen within the past twenty years, and dedicated field surveys could potentially turn up additional occurrences. Near Brownsville, additional potential habitat is found on private land, which is under significant development pressure (L. Janeway pers. comm. 2015). The Osceola Ridge area also has potential habitat for new occurrences, on private and BLM lands that face development pressure. Of the known occurrences, seven are on BLM land, two are on the Plumas National Forest, and six have an unknown landowner.

Carex xerophila faces a multitude of threats throughout its range. Development pressure on private lands in Yuba and Nevada counties threatens many of the known occurrences in those areas, in addition to potentially threatening the areas of potential habitat where new occurrences could be found. If not properly managed, occurrences on BLM lands in Nevada County could also possibly face development threats. In Yuba County, an active dump and a park with ball fields already exist on the BLM land where *C. xerophila* occurs, and populations have potentially already been lost due this past development. The plants at the Pine Hill Preserve in El Dorado County are on BLM land, and appear to be the best-protected at this point (L. Janeway pers. comm. 2015).

Based on the available information, CNPS and CNDDDB recommend adding *Carex xerophila* to California Rare Plant Rank 1B.2. If more information on this plant becomes available in the future, we will re-evaluate it at that time.

Recommended Actions

CNPS: Add *Carex xerophila* to CRPR 1B.2

CNDDDB: Add *Carex xerophila* to G2G3 / S2S3

Draft CNPS Inventory Record

Carex xerophila Janeway & Zika

chaparral sedge

Cyperaceae

CRPR 1B.2

Butte, El Dorado, Nevada, Yuba

Shingle Springs (510B) 3812068, Pilot Hill (527D) 3812171, Grass Valley (542A)

3912121, Challenge (558B) 3912142, Rackerby (559A) 3912143, Paradise East (592D) 3912175

Chaparral, cismontane woodland, lower montane coniferous forest / serpentinite, gabbroic; elevation 440-770 meters

Cespitose perennial herb. Fruits March to June.

Threatened by development, [urbanization](#), [alteration of fire regimes](#), [recreational activities](#), and [non-native plants](#). Similar to *C. brainerdii* and *C. globosa*. See *Madroño* 61(3):299-307 (2014) for original description.

Literature Cited

Ball, P.W., and A.A. Reznicek. 2002. *Carex*. Pp. 254-572 in Flora of North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 23. New York and Oxford.

Consortium of California Herbaria, CCH. 2015. 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 30 July 2015].

Mastrogioseppe, J. 1993. *Carex*. Pp. 1107-1138 in Hickman, J.C. (ed.), The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.

Zika, P.F., A.L. Hipp, and J. Mastrogioseppe. 2012. *Carex*. Pp. 1308-1338 in Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.), The Jepson Manual: Vascular Plants of California (2nd ed.). University of California Press, Berkeley and Los Angeles.

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Zika, P.F., L.P. Janeway, and B.L. Wilson. 2014. *Carex xerophila* (Cyperaceae), a new sedge from the chaparral of northern California. *Madroño* 61(3): 299-307. (Original description.)