Rare Plant Status Review: *Schoenoplectiella saximontana*
Proposed Addition to California Rare Plant Rank 2B.1, G4G5 / S2
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This status review is being expedited through an agreement between the California Native Plant Society and the Utom Conservation Fund. Aside from being advanced as part of this agreement, the process, content, and information provided herein is not altered, modified, or developed differently in any way or form compared to other status reviews developed by CNPS.

Background and Taxonomy
*Schoenoplectiella saximontana* (Fernald) Lye is an annual (occasionally perennial) rhizomatous herb in the Cyperaceae, and ranges discontinuously from British Columbia, North Dakota, and Ohio south to central Mexico (Smith 2002, Smith 2012, Gonzalez-Elizondo et al. 2018). It is included in *The Jepson Manual* (Smith et al. 1993) as *Scirpus saximontanus*; in the *Flora of North America* (Smith 2002) and *Jepson eFlora* (Smith 2012) it is treated as *Schoenoplectus saximontanus*. It has recently been treated within the *Schoenoplectus* segregate *Schoenoplectiella* Lye (Shiels et al. 2014), a name that will be adopted when Cyperaceae is next updated in the *Jepson eFlora* (Baldwin 2024 pers. comm.). *Schoenoplectiella saximontana* is differentiated from *Schoenoplectus* (s.l.) taxa in California by its tufted habit with obscured rhizomes, height less than 60 cm, cylindric stems less than or equal to 1.5 mm in diameter, unnotched flower bract tips, 1–20 spreading spikelets, and fruits with sharp and wavy transverse ridges (Smith 2012). The specific epithet presumably refers to the Rocky Mountains, as the first specimen cited in the protologue (later designated the lectotype) was collected in Colorado just east of the mountain range (Fernald 1901, Beetle 1942).

Ecology
Within California, *Schoenoplectiella saximontana* occurs in freshwater marshes at the edges of ponds, vernal pools, and occasionally ditches or artificial reservoirs (Smith 2012, CCH2 2024, iNaturalist 2024). The seeds of *Schoenoplectiella* are probably moved by waterfowl and mammals which may explain its colonization at some artificial sites (Smith and McKenzie 2013, McKenzie et al. 2015). Substrate from two herbarium specimens was recorded as clay soil or wet silty loam (CCH2 2024), and the *Jepson eFlora* includes the substrate details “often drying” and “often sandy” (Smith 2012). Its habitat preferences are similar to those of *Schoenoplectella hallii*, a rare species from the eastern United States, and both taxa are sensitive to competition from other plants (Smith and McKenzie 2013). Occurrences in California range in elevation from 45 to 720 meters (160 to 2,360 feet) (CCH2 2024, iNaturalist 2024). *Schoenoplectiella saximontana* has been observed blooming in California from June to September (rarely as early as March and as late as October) (CCH2 2024, iNaturalist 2024). Associated plant taxa noted by collectors include *Ammannia* spp., *Crassula* spp., *Cyperus* spp., *Eleocharis macrostachya* and other *Eleocharis* spp., *Epilobium campestre*, *Lythrum hyssopifolia*, *Malvella leprosa*, *Marsilea vestita* subsp. *vestita*, *Navarretia fossalis* (CRPR 1B.1), and *Orcuttia californica* (CRPR 1B.1) (CCH2 2024, CNPS 2024).

Distribution and Abundance
Within California, there are 15 widely scattered occurrences of *Schoenoplectiella saximontana* from Butte, Fresno, Kern, Los Angeles, Riverside, San Diego, San Luis Obispo, Tehama, and
Ventura counties (CCH2 2024, iNaturalist 2024). Munz (1968) includes Colusa County in the species’ distribution, but no digitized herbarium collections were found. The occurrences are on lands managed by the Kern NWR (1), CDFW French Valley Wildlife Area (1), TNC Gray Davis Dye Creek Preserve (1), Fallbrook Naval Weapons Station (3), or are on lands of unknown or private ownership (9). One of the occurrences on private land (#6) is on the Skunk Hollow Vernal Pool Preserve in Riverside County, and occurrence #5 is on private land in vernal pools designated as a Significant Ecological Area by Los Angeles County (Anonymous 2000, LACGP 2015). Four of the occurrences are recent (seen within the past 20 years), and 11 are historical. Two of the historical occurrences (#4 and 15) are probably extirpated. *Schoenoplectiella saximontana* location #4 and a nearby collection/occurrence of *Delphinium recurvatum* (1B.2) were both collected by Twisselmann in the 1950s, and the *D. recurvatum* occurrence has since been extirpated by agricultural conversion (CNDDB 2024). At location #15, the hydrology was heavily altered by a housing development in the 1980s, resulting in the disappearance of nearly all native wetland plants from the site, including an extirpated occurrence of *Sagittaria sandforadii* (1B.2) (Smith 1998, CNDDB 2024, Magney 2024 pers. comm.).

None of the occurrences have quantitative population estimates (CCH2 2024). Qualitative descriptions of abundance include “large colony” (2), locally common (1), uncommon to common (2), scattered or locally scattered (2), scarce (1), and rare (2) (CCH2 2024). One of the sites (#15) reporting a large colony is probably extirpated.

While some of the gaps in this taxon’s distribution may be artifacts of low detectability or collection effort, the *Flora of North America* account notes that its overall distribution is local and “very scattered” (Smith 2002), the *Jepson eFlora* notes that it is “rare in California” (Smith 2012), and its status in other states suggests that its apparent rarity in California is genuine (see Status and Threats below). Given the widespread and scattered nature of records within California and across the species’ range, additional records could be found in vernal pools or other vernally wet sites at low to moderate elevations throughout the state. Like other taxa that occur in seasonally wet areas, suitable habitat, germination rates, and population sizes of *Schoenoplectiella saximontana* vary from year to year depending on water levels (Smith 1998, McKenzie et al. 2015, CCH2 2024); therefore, surveys in wet years are more likely to be successful.

**Status and Threats**

*Schoenoplectiella saximontana* is currently ranked Globally Secure (G5), but the assessment was based on a single source and has not been reviewed since 1990 (NatureServe 2024). Within the United States and Canada, it is ranked as Vulnerable (S3) in Texas, Imperiled (S2) in British Columbia and Oklahoma, Critically Imperiled (S1) in Colorado, Kansas, Missouri, Nebraska, Ohio, Utah, Washington, and Wyoming, and unranked in South Dakota (NatureServe 2024). It is also known from a recent collection at a single site in Oregon (Reidy 1001, OSU), but its conservation status has not been assessed (ORBIC 2024, Oregon Flora 2024, Marshall 2024 pers. comm.). The *Flora of North America* (Smith 2002) includes Illinois in the species’ distribution, but the Illinois Natural History Survey does not (INHS 2023). Of the eight states in Mexico where *Schoenoplectiella saximontana* occurs, qualitative assessments of its status are only provided for Baja California and Baja California Sur where it is considered “rare” in each state (Smith 2002, Rebman et al. 2016, Gonzalez-Elizondo et al. 2018).
While threats are not recorded for any of the California herbarium records, five of the *Schoenoplectiella saximontana* locations (#s 4, 5, 6, 14, and 15) overlap occurrences of plants tracked by the CNDB (2024). Location #4 and 15 are probably extirpated (see Distribution and Abundance). Location #5 is from vernal pools with occurrences of *Navarretia fossalis* (1B.1) and *Orcuttia californica* (1B.1) which are threatened by development, equestrians, and ORV activity (CNDB 2024). Location #6 is from vernal pools with occurrences of *Orcuttia californica* and *Ambrosia pumila* (1B.1) which are threatened by dam/inundation, development, diskimg, and non-native plants (CNDB 2024). Location #14 is from a vernal pool with an occurrence of *Orcuttia californica* that is threatened by altered flood/tidal/hydrologic regime and diskimg, with at least part of the property planned to be developed when *Schoenoplectiella saximontana* was documented in 2003 (CNDB 2024, Burgess 2024 pers. comm.). While specific threats to the other occurrences are not known at this time, many freshwater habitats in California have been heavily altered or destroyed, and the remaining occurrences are possibly threatened by development, agricultural activities, or hydrological alterations. Conversely, some sites in artificial reservoirs suggest that the species may be able to colonize disturbed sites or re-colonize restored wetland habitats.

**Summary**

Based on the available information, CNPS and CNDB recommend adding *Schoenoplectiella saximontana* to California Rare Plant Rank 2B.1 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *Schoenoplectiella saximontana* changes in the future, we will re-evaluate its status at that time.

**Recommended Actions**

CNPS: Add *Schoenoplectiella saximontana* to CRPR 2B.1
CNDB: Add *Schoenoplectiella saximontana* to G4G5 / S2

**Draft CNPS Inventory Record**

*Schoenoplectiella saximontana* (Fernald) Lye
Rocky Mountain bulrush
Cyperaceae
USDA Plants Symbol: SCSA11
Synonym(s)/Other Name(s): None
CRPR 2B.1
Counties: Butte, Fresno, Kern, Los Angeles, Riverside, San Diego, San Luis Obispo, Tehama, Ventura
States: California, Colorado, Kansas, Missouri, Nebraska, Ohio, Oklahoma, South Dakota, Texas, Utah, Washington, Wyoming
Quad name (code): Bachelor Mtn. 3311751, Creston 3512055, Fallbrook 3311743, Firebaugh 3612074, Los Molinos 4012211, Lost Hills NE 3511965, Matilija 3411943, Mint Canyon 3411844, Morro Hill 3311733, Pond 3511963, Rackerby 3912143, Simi 3411837, Wildomar 3311753
General Habitat: Vernal pools, marshes and swamps (margins)
Microhabitat Details: Freshwater edges, ponds, and ditch margins.
Microhabitat: sandy (often)
Elevation: 45–720 meters (160–2,360 feet)
Life form: annual (sometimes perennial) rhizomatous herb
Schoenoplectiella saximontana
Element Code: PMCYP0Q1D0
Added to CRPR 2B.1 on 2024-04-11

Blooms (Mar–May) June–September (Oct)
Threats: Threatened by development, hydrological alterations, inundation, disking, equestrians, vehicles, and non-native plants.
Taxonomy: Differs from Schoenoplectus (s.l.) taxa in California by its tufted habit with obscured rhizomes (vs. mat-forming with long rhizomes), height of less than 60 cm, cylindric stems (vs. 3-sided at least near inflorescences) less than or equal to 1.5 mm (vs. 2–10 mm) in diameter, unnotched flower bract tips, 1–20 spreading spikelets (vs. 1 erect spikelet), and fruits with sharp and wavy transverse ridges (vs. smooth fruits).

Selected References:
- CNPS Status Review: Proposed addition to CRPR 2B.1, G4G5 / S2 (2024)
- Original Description: Rhodora 3(34): 251 (1901)

Literature Cited


[CNDDB] California Department of Fish and Wildlife, Natural Diversity Database. 2024. RareFind 5 [Internet application] and CNDDB Maps and Data, Version 5.3.0. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data [Government Version, January 2024].


iNaturalist. 2024. Available at: https://inaturalist.org [accessed January 2024].


Sent to: SN, GV, CW, SW, on 3/4/2024
Schoenoplectiella saximontana

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Personal Communications

Baldwin, Bruce. 2024. Curator, The Jepson Herbarium, Convening Editor, *Jepson eFlora*. Email correspondence regarding *Schoenoplectiella saximontana* nomenclature. 5 January 2024.

Burgess, Rick. 2024. Botanist, City of Thousand Oaks (retired). Email correspondence regarding records of *Schoenoplectiella saximontana* in Ventura County. Personal communication 18 January 2024.

Cooper, Daniel. 2024. Principal Conservation Biologist, Resource Conservation District of the Santa Monica Mountains. Email correspondence regarding occurrence of *Schoenoplectiella saximontana* in Los Angeles County. Personal communication 12 January 2024.

Magney, David. 2024. Consulting botanist, Althouse and Meade, Inc. Email correspondence regarding occurrence of *Schoenoplectiella saximontana* at Mirror Lake, Ventura County. Personal communication 21 January 2024.

Marhsall, Danielle. 2024. Botanist, Oregon Department of Agriculture. Email correspondence regarding recent record and conservation status of *Schoenoplectiella saximontana* in Oregon. Personal communication 18 January 2024.

Rebman, John. 2024. Curator, The San Diego Natural History Museum Herbarium. Email correspondence regarding records of *Schoenoplectiella saximontana* in San Diego County and Baja California. Personal communication 11 January 2024.