

Rare Plant Status Review: *Eryngium montereyense***Proposed Addition to California Rare Plant Rank 1B.1, G1 / S1**

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Changes to the original text are in blue font

This status review is being expedited through an agreement between the California Native Plant Society and the Center for Plant Conservation (CPC), with contributions from the state of California, CPC, and the California Plant Rescue initiative. 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

Eryngium montereyense D. W. Taylor & R. E. Preston is a perennial herb in the Apiaceae that is known only from Fort Ord National Monument (hereafter, Fort Ord) in Monterey County, California. The species was first described in 2022 (Taylor and Preston 2022) and is not included in *The Jepson Manual* (Constance 1993) or *Jepson eFlora* (Preston et al. 2012). The *Flora of North America* (FNA 1993+) Apiaceae treatment has not yet been published. *Eryngium montereyense* was described from material collected by Dean W. Taylor in 2016 (Taylor 21690, JEPS) and additional collections from 7 June 1987 (Yadon s.n., PGM), 5 and 8 May 2009 (Solomeshch s.n., DAV), and 23 June 2019 (Preston 3233, DAV) (Taylor and Preston 2022). The 1987 and 2009 collections were initially identified as *E. armatum* (CCH2 2023). Fort Ord, a former U.S. Army base, was poorly surveyed prior to its closing and transfer to the BLM (Taylor and Preston 2022). *Eryngium montereyense* is the third new plant species discovered on Fort Ord since the base was closed, the other two being *Agrostis lacuna-vernalis* (CRPR 1B.1) and *Chorizanthe minutiflora* (CRPR 1B.2) (Taylor and Preston 2022, CNPS 2023). “*Eryngium montereyense* is named to indicate the geographic limitation of the taxon, mirroring the etymology of *E. pendletonense* Marsden & Simpson, another coastal narrow endemic” (Taylor and Preston 2022).

Morphologically, *Eryngium montereyense* is most like *E. armatum*, *E. pendletonense*, and *E. pinnatisectum*; the latter two species are allopatric, while *E. armatum* also occurs on Fort Ord (Preston et al. 2012, Taylor and Preston 2022). *Eryngium montereyense* occurs in vernal pools and vernal wet swales while *E. armatum* grows in adjacent grasslands (Taylor and Preston 2022). In addition to its different habitat, *Eryngium montereyense* differs morphologically in having pinnately to bipinnately lobed leaves, while *E. armatum* leaves are generally unlobed, have sharply serrate to irregularly cut margins, and are not pinnatifid (Taylor and Preston 2022). When originally described, *Eryngium pendletonense* was only known from a small area in northern San Diego County, where it occurs in wet grasslands, swales, and vernal pools (Marsden and Simpson 1999, Preston et al. 2012). Recent *Eryngium* collections from similar habitat on grassy coastal terraces in northwestern San Luis Obispo County (ca. 75 miles from Fort Ord) have been determined as *E. pendletonense* (e.g., Keil 29743, 29760, OBI) (CCH2 2023). *Eryngium montereyense* differs from *E. pendletonense* by its short, linear to lanceolate-lobed basal leaves (vs. pinnate with long linear lobes, or bipinnate), small capitular bracts ≤ 13 mm (vs. ≤ 40 mm), and mature styles \leq sepals (vs. $>$ sepals) (Taylor and Preston 2022). *Eryngium montereyense* also has smaller inflorescence heads and fewer flowers per head than either *E. armatum* or *E. pendletonense* (Taylor and Preston 2022).

Ecology

Eryngium montereyense is a perennial herb that occurs in vernal pools and seasonally moist swales on marine sedimentary substrates (Keeler-Wolf et al. 1998, CDC 2015, Taylor and Preston 2022). Flowering occurs from March through May and elevations at confirmed localities range from 400 to 600 feet (120 to 180 m) (Calflora 2023, CCH2 2023, iNaturalist 2023). Nearby upland habitats include coast live oak woodland, maritime chaparral, and grassland (Taylor and Preston 2022). Associated plant taxa include *Callitriche heterophylla* var. *bolanderi*, *Lasthenia conjugens* (CRPR 1B.1), *L. glaberrima*, *Plagiobothrys chorisianus* var. *hickmanii* (CRPR 4.2), and *Psilocarphus chilensis* (Calflora 2023, CCH2 2023, CNPS 2023). Additional species observed in vernal pools within the range of *Eryngium montereyense* include *Alopecurus saccatus*, *Eleocharis* spp., *Isoetes* spp., *Juncus bufonius*, *Lythrum hyssopifolia*, *Plagiobothrys* sp. *tenellus*, and *Stachys ajugooides* (USACE 1992, Tannourji 2009, CCH2 2023).

Distribution and Abundance

Eryngium montereyense is known from seven occurrences, all but one of which are recent (Taylor and Preston 2022, Calflora 2023, CCH2 2023, iNaturalist 2023). All records are within Fort Ord National Monument, which is managed by the BLM. The known occurrences lie within a total area of approximately two square miles, within which a far smaller amount of suitable habitat exists. Fort Ord has approximately 60 vernal pools (covering ca. 34 acres) (USACE 1996). Some of these pools are poorly surveyed due to the presence of unexploded ordnance, and additional surveys will likely find new *Eryngium montereyense* localities (Taylor and Preston 2022). *Eryngium* reported from at least six additional vernal pools on Fort Ord (usually identified as *E. armatum* in unpublished consulting reports) may represent additional occurrences of *E. montereyense*, but vouchers were not collected (Taylor and Preston 2022). Population size estimates were not reported in Taylor and Preston (2022) nor on any collection labels (CCH2 2023), but it may be “quite abundant at many locations, sometimes dominant” (Delgado 2023 pers. comm.). Although additional records are likely to be found, such as the potential of additional occurrences from vernal pools with plants identified as *E. armatum*, *E. montereyense* has an extremely limited geographic range, and newly discovered records are unlikely to affect its overall rarity.

Status and Threats

Eryngium montereyense currently has no conservation status (NatureServe 2023). Known threats to this species are habitat disturbance due to past military activities and associated cleanup, e.g., unexploded ordnance removal (Taylor and Preston 2022).

Summary

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

Recommended Actions

CNPS: Add *Eryngium montereyense* to CRPR 1B.1

CNDDDB: Add *Eryngium montereyense* to G1 / S1

Draft CNPS Inventory Record

Eryngium montereyense D.W. Taylor & R.E. Preston

Fort Ord button-celery

Apiaceae

USDA Plants Symbol: none

Synonym(s)/Other Name(s): none

CRPR 1B.1

Counties: Monterey

States: California

Quad name (code): Seaside (3612157), Salinas (3612166), Marina (3612167)

General Habitat: Vernal pools

Microhabitat Details: Occurs in vernal moist swales and vernal pools in valley and foothill grassland surrounded by chaparral (maritime) and coast live oak woodland, on marine sedimentary substrate.

Microhabitat: Vernal mesic, sandy

Elevation: elevation 120–180 meters

Life form: Perennial herb

Blooms: March to May

Threats: Threatened by military activities

Taxonomy: Previously identified as *E. armatum*, an upland species; differs from *E. armatum* in having pinnately to bipinnately lobed leaves.

CNPS Status Review: Proposed addition to CRPR 1B.1, G1 / S1 (2023)

Selected References:

- Original Description: *Phytoneuron* 2022-45: 1–8 (2022)

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