Rare Plant Status Review: *Ericameria nauseosa* var. *ceruminosa*
Proposed Addition to California Rare Plant Rank 4.2, G5T3 / S3
Ellen A. Dean (CNPS), Adam J. Searcy (CNPS), and Katie Ferguson (CNDDB)
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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

Ericameria nauseosa (Pursh) G.L. Nesom & G.I. Baird var. *ceruminosa* (Durand & Hilg.) G.L. Nesom & G.I. Baird is a perennial shrub in the Asteraceae known from the Mojave Desert and surrounding southern Sierra Nevada Mountains, Tehachapi Mountains, Transverse Ranges, and San Gabriel Mountains. It is included in *The Jepson Manual* (as *Chrysothamnus nauseosus* ssp. *ceruminosum*, Anderson 1993), *Jepson eFlora* (Urbatsch 2012) and *Flora of North America* (Urbatsch et al. 2006). *Ericameria nauseosa* is a widespread species of western North America and northern Mexico that has 21 varieties (Urbatsch et al. 2006). Variety *ceruminosa* was first described from a collection made at Tejon Pass as *Linosyris ceruminosus* in 1855 (Durand and Hilgard 1855). It is very distinctive in having recurved, acuminate phyllary apices (versus erect apices that are often wide and blunt) (Urbatsch 2012). This character is easily seen on herbarium specimen images with buds, mature flowers, or fruits. The epithet "ceruminosa" is derived from the Latin "*cera*" which means "wax" (Charters 2024). According to the protologue: "The whole surface of the stalks is covered with short, apparently dense, tomentum infiltrated with a yellowish resinous substance, giving it a texture of ear-wax of a greenish golden hue" (Durand and Hilgard 1855).

Ecology

Ericameria nauseosa var. *ceruminosa* occurs in cismontane woodland, Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub, Great Basin scrub, chaparral, riparian scrub, and, rarely, in openings in upper montane coniferous forest of the southern Sierra Nevada (generally transitioning to Great Basin scrub or desert vegetation). It is usually found in dry areas within washes, river bottoms, alluvial plains, or alkaline basins on flats or gentle slopes, sometimes on south-facing aspects; the substrate is described as sandy, gravelly, sandstone, or decomposed granite (CCH2 2024, CNPS 2024, iNaturalist 2024). Commonly associated species are variable, given the number of vegetation types where is it found, and include: *Pinus sabiniana*, *P. jeffreyi*, *P. monophylla*, *Abies concolor*, *Yucca brevifolia*, *Ericameria nauseosa* var. *mohavensis*, *Eriogonum fasciculatum*, *Ceanothus cuneatus*, *Adenostoma fasciculatum*, *Arctostaphylos glauca*, *Prunus ilicifolia*, *Dendromecon rigida*, *Ephedra nevadensis*, *Cylindropuntia echinocarpa, Stephanomeria virgata*, *Senecio flaccidus*, *Bromus tectorum*, *Tropidocarpum gracile*, *Eschscholzia californica*, *Layia glandulosa*, *Leptosyne bigelovii*, *Eriogonum baileyi* var. *baileyi*, *Eriastrum densifolium*, *Euphorbia albomarginata*, *Deinandra pallida*, and *Cordylanthus rigidus* ssp. *brevibracteatus*. In the region where it occurs, several other varieties of *E. nauseosa* are commonly present, including vars. *mohavensis*, *hololeuca*, *oreophila*, and *bernardina* (CCH2 2024). As stated above, these varieties differ in having phyllaries that are not recurved and attenuate at the tip, and they may also differ in habitat and

microhabitat preferences (Urbatsch 2012). It blooms from September to November (and rarely in December) (Calflora 2024, CCH2 2024, iNaturalist 2024). Records range in elevation from 2,556–6,000 ft (779–1,829 m) (Calflora 2024, CCH2 2024, iNaturalist 2024).

Distribution and Abundance
Ericameria nauseosa var. *ceruminosa* is a California endemic known from 35 estimated occurrences (EOs) in Tulare, Kern, Los Angeles, and San Bernardino counties (Calflora 2024, CCH2 2024, iNaturalist 2024). Most of the 35 EOs skirt the western edge of the Mojave Desert beginning in the southern Sierra Nevada and ending at the base of the San Gabriel Mountains. One record (EO #25, 30 mi NE of Bakersfield), correctly identified based on phyllary characters, is outside of this distribution. All but one of the EOs map within six Jepson bioregions: Southern Sierra Nevada Foothills, Southern High Sierra Nevada, Tehachapi Mountains, Western Transverse Ranges, San Gabriel Mountains, and Mohave Desert (Baldwin et al. 2012). Record #26 maps within the boundaries of the San Joaquin Valley bioregion. However, this location northeast of Bakersfield near the bottom of the Greenhorn Mountains of the Sierra Nevada at ca. 3000 feet should actually be part of the Southern Sierra Nevada Foothills bioregion (Baldwin et al. 2012). The *Jepson eFlora* treatment (Urbatsch 2024) appears to be somewhat inaccurate in citing only the Mojave Desert bioregion for this variety.

Of the 35 EOs, two thirds (23) are historical (not observed in the past 20 years). Only three EOs have population counts – EO #12 with 1,000 plants, EO #13 with 40 plants, and EO #14 with 11 to 50 plants. Seven other EOs provide statements about abundance: three state that the plant is common, three use the terms locally common, scattered, or occasional, and one uses the term uncommon. The locations of the 35 EOs are managed/owned by Joshua Tree National Park (1 EO), Sequoia National Forest (3), San Bernardino National Forest (2), Angeles National Forest (2), Bureau of Land Management (5), US Army Corps of Engineers Mojave River Forks Regional Park (1), CDFW Mojave Narrows Regional Park (1), Tejon Ranch [private] (2), National Audubon Society [private] (1), and manager/ownership unknown (17).

In addition to analyzing records determined to *E. nauseosa* var. *ceruminosa* we also examined 264 CCH2 records from Tulare, Kern, Los Angeles, and San Bernardino counties that were only identified to *E. nauseosa* (no variety). If an image was available online, plant characteristics were examined to determine if the record could be assigned to var. *ceruminosa*. If an image was not available, duplicate specimens were researched to see if the specimen had been determined to another variety of *E. nauseosa*. Of the 263 records, nine were determined to be var. *ceruminosa* and added to our analysis, and all these records could be assigned to an existing EO. Of the remaining 254 records, 23 did not have an image to examine but the specimen was collected in a location, habitat, and elevation that could support var. *ceruminosa*. These 23 records (in light blue in the location table) fell into nine new EOs. Therefore, there is the possibility that there are as many as nine additional EOs of var. *ceruminosa*, for a total of 45 EOs.

At the bottom of the location spreadsheet are six records highlighted in pink that were not included in the distribution analysis. Two records (from the same collecting event) are from Mono Lake and out of range for this variety. One record is from Siskiyou County and is also out of range (duplicate specimens are identified to var. *oreophila*). One record has a location that is too vague to georeference (Mojave Desert). Another is from “Hollywood” and, although

correctly determined, is likely mislabeled. The collector of this specimen came to California from the east coast of the United States several times and did visit the Mojave Desert region in other years. It is unlikely that var. *ceruminosa* occurred in Hollywood [Griffith Park] in 1932, and no *E. nauseosa* varieties are included in the *Flora of Griffith Park* (Cooper 2015). The final record maps to Ivanpah Lake; botanists familiar with this location have never found var. *ceruminosa*, despite intensive field work (Andre 2024 pers. comm.), and so it is likely that the location on the label is incorrect.

Status and Threats

Ericameria nauseosa var. *ceruminosa* has no conservation status. NatureServe (2024) ranks this variety T2/T3 rounded to T2 (imperiled). Given the larger distribution discovered for this variety during this analysis, a ranking of T3 (vulnerable) is probably more appropriate. The only threats mentioned for var. *ceruminosa* (disturbance due to grazing and fire) are associated with EO #14 from north of the Liebre Mountains in Los Angeles County. However, four of the historical EOs collected along the Mojave River in the vicinity of Hesperia and Victorville in San Bernardino County in the early part of the last century may have been extirpated due to development (EO #s 8, 9, 10, 11). In addition, given the distribution of this plant, it could be threatened by future solar panel development.

Summary

This variety has a broad distribution in four counties, and so there is a high likelihood of further discovery of populations. However, it became apparent during this review that var. *ceruminosa* is a rare plant that is restricted to washes, alluvial habitats, and alkaline playas in the regions where it is found. An analysis of 264 CCH2 records not determined to variety only turned up an additional nine EOs for a total of 45 possible EOs, and four may have been extirpated by development. Other varieties of *E. nauseosa* are more common in upland, less-specialized habitats. Therefore, CNPS and CNDDB propose adding *E. nauseosa* var. *ceruminosa* to California Rare Plant Rank 4.2 of the CNPS Inventory. If knowledge on the distribution, threats, or rarity status of *E. nauseosa* var. *ceruminosa* changes in the future, it may be re-evaluated at that time.

Recommended Actions

CNPS: Add *Ericameria nauseosa* var. *ceruminosa* to CRPR 4.2
CNDDB: Add *Ericameria nauseosa* var. *ceruminosa* to G5T3 / S3

Draft CNPS Inventory Record

Ericameria nauseosa (Pursh) G.L. Nesom & G.I. Baird var. *ceruminosa* (Durand & Hilg.) G.L. Nesom & G.I. Baird
sharp-bracted rabbitbrush
Family: Asteraceae
USDA Plants Symbol: ERNAC3
CRPR 4.2
Counties: Kern, Los Angeles, San Bernardino, Tulare
States: California
Quad name (code): Alta Sierra (3511865), Apple Valley South (3411742), Cajon (3411734), Cross Mountain (3511832), Hesperia (3411743, Kernville (3511874), Lake Arrowhead

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(3411732), Lake Hughes (3411864), Lamont Peak (3511871), Lebec (3411877), Liebre Twins (3411885), Mount San Antonio (3411736), Onyx (3511862), Pinyon Mtn. (3511842), Sand Canyon (3511868), Silverwood Lake (3411733), Telegraph Peak (3411735), Victorville (3411753), Walker Pass (3511861), Weldon (3511863), Yucca Valley South (3411614).
General Habitat: Cismontane woodland, Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub, Great Basin scrub, chaparral, riparian scrub, upper montane coniferous forest (rarely).
Microhabitat Details: Usually in dry areas within washes, river bottoms, alluvial plains, or alkaline basins on flats or gentle slopes.
Microhabitat: Sandy (often), gravelly (often), granitic (sometimes), alkaline (sometimes)
Elevation: elevation 780–1,830 meters (2,555–6,000 ft)
Life form: Perennial shrub
Blooms: September to November (December)
Threats: Threatened by development and solar energy development. Possibly threatened by grazing and alteration of fire regimes.
Taxonomy: Distinct from other vars. in having recurved, acuminate phyllary apices (versus erect apices that are often wide and blunt).
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G5T3 / S3 (2024)
- Original Description: *The Academy of Natural Sciences of Philadelphia* 3 (second series): 37–46 (1855)
- Revised Nomenclature: *Phytologia* 75: 74–93 (1993)

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[CCH2] Consortium of California Herbaria Portal 2. 2024. Data provided by the participants of the Consortium of California Herbaria and the California Phenology Thematic Collections Network (CAP-TCN). Regents of the University of California, Berkeley and Cal Poly, San Luis Obispo. Website http//:www.cch2.org/portal/index.php [accessed August 2024].

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Personal Communications

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Urbatsch, Lowell. 2024. Emeritus Professor, Louisiana State University, and author of *Jepson eFlora* treatment of *Ericameria*. Email regarding status review of *Ericameria nauseosa* var. *ceruminosa*. Personal communication 20 September 2024.

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