

Rare Plant Status Review: *Hecastocleis shockleyi*

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Background

Hecastocleis shockleyi is a distinctive spiny-leaved shrub in the Asteraceae that has a single floret per head. It occurs only in southern California and Nevada and grows on limestone (dolomite), marble and slate in rocky, arid shrublands and washes. This species was included in Appendix I (rare and not endangered plants, including some of uncertain status) of the 1974 CNPS Inventory. At that time, it was given a R-E-V-D code of 1 indicating that the plant was considered "rare, of limited distribution, but distributed widely enough that potential for extinction or extirpation is apparently low at present." However, there appears to be a paucity of recent *Hecastocleis shockleyi* collections in California. In addition, this species is reported to be infrequently encountered in recent years (Keeler-Wolf, pers. comm. 2000). Collections from the Leadfield area and southern Eureka Valley are over 50 years old. The current status of these occurrences is unknown. Based on our review of the available data, approximately 20-25 occurrences have been documented in the state at this time. However, it is likely that many additional undocumented occurrences exist (Morefield, pers. comm. 2004, see below).

Todd Keeler-Wolf provided photos (attached) and the following description for two stands in the Inyo Mountains and the Last Chance Range of Inyo County as well as a summary of sites in Nevada:

Each of the ones I know are composed of numerous individuals (over 200 shrubs) and they locally dominate or co-dominate the landscape. They are on N or NE facing steep rocky slopes within the *Grayia spinosa* vegetation alliance. Other associated species are *Krascheninnikovia lanata*, *Acamptopappus sphaerocephalus*, *Achnatherum speciosum*, *Ambrosia dumosa*, *Artemisia spinescens*, *Atriplex confertifolia*, *Chrysothamnus viscidiflorus*, *Stanleya pinnata*, *Eriogonum fasciculatum* *polifolium*, *Yucca brevifolia* etc.

According to Beatley 1976 (Flora of Nevada Nuclear Test Site) *H. shockleyi* is locally common in limestone cliff crevices and ledges with *Atriplex confertifolia* and *Coleogyne*. She gives these localities: Spotted Range, Mercury Ridge, Ranger Mountains, Buried Hills (and limestone butte to west), Halfpint Range (on French Peak Mountain).

The following information was provided by James Morefield and included for your consideration:

...based on my experience with the species (mainly in the White Mountains and southern Eureka Valley area), I think we would soon regret having made this a species of conservation concern in CA.

(Last updated 11/23/04)

In my estimation, the combination of inaccessible habitat (Beatley's description summed up my experience of the habitat type very nicely), inconspicuous aspect, very spiny nature, and knowledge of past collections has probably resulted in the relatively few recent collections. I know of no reason to suspect that populations represented even by very old collections from Inyo and Mono counties (and from most of its Nevada range) are not still extant. I know less about the populations from farther south, and expect that a few of them may have been impacted (are any known from Cushenbury Grade area?). But given the overall wide geographic range of the species, and its many remote populations in Inyo-Mono and western Nevada, I have no concern for its long-term viability in either state. Given the commonness of its habitat type in this region, I expect many additional populations remain to be documented.

I would not characterize any of the populations I have seen as abundant, and only rarely does it codominate with other shrubs. Typically it occurs as scattered shrubs among its more abundant associates, and usually numbers in the hundreds when sufficient habitat area is available. It is a frequent associate of *Dedekera eurekensis*, though more reliably present within its (apparently) suitable habitat, and with a much larger geographic range.

Based on a review of *Inventory* taxa with a similar general distribution (e.g. *Astragalus oophorus* var. *oophorus*, *Mortonia utahensis*, *Swertia albomarginata*), a rank of List 4 (limited distribution, watch list) appears appropriate at this time. Please let us know what you think.

Recommended Actions

CNPS: Add to CNPS List 4 / RED 1-1-1

CNDDB: Add to CNDDB as G4G5 / S3S4

Please review the draft CNPS *Inventory* record below, respond Yes or No on the proposal to add this species to the Inventory and CNDDB, and provide any edits, comments or additional data.

Draft CNPS *Inventory* record:

Hecastocleis shockleyi Gray

"prickle-leaf"

Asteraceae

List 4 / RED 1-1-1

Inyo, Mono, Riverside, San Bernardino, Nevada

65D, 107B, 274C, 350D, 368D, 371B, 390C, 390D, 391C, 391D, 392B, 410C, 411D, 432D

Mojavean desert scrub, chenopod scrub / rocky slopes, washes; often carbonate or slate; elevation 10-2200 meters.

Shrub (evergreen), blooms May-July.

Locally common in the Grapevine, Inyo, and Last Chance Mountains. See *Proceedings of the American Academy of Arts and Sciences* 17:221 (1882) for original description.

Expanded Quad List:

Martinez Mountain (065D) 3311653

Devore (107B) 3411724

Horse Thief Springs (274C) 3511578

Cerro Gordo Peak (350D) 3611757

Thimble Peak (368D) 3611771

Waucoba Canyon (371B) 3611788

Last Chance Range SW (390C) 3711716

Last Chance Range SE (390D) 3711715

Waucoba Spring (391C) 3711718

East Of Waucoba Spring (391D) 3711717

Uhlmeier Spring (392B) 3711822

Last Chance Mountain (410C) 3711736

Horse Thief Canyon (411D) 3711737

Chalfant Valley (432D) 3711853