

**Added to California Rare Plant Rank 2.2 in the CNPS Inventory on
October 19, 2011**

Rare Plant Status Review: *Astragalus sabulorum*

Proposed New Add to California Rare Plant Rank 2.2, G5 / S2

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Changes made to the original document appear in blue text.

Background

Astragalus sabulorum is an annual (although occasionally short-lived perennial) herb in the Fabaceae family, growing in desert regions from California to as far east as New Mexico, and south to **northwestern Sonora, Mexico** ~~Baja California~~. It is included in *The Jepson Manual, Second Edition* (available online at http://ucjeps.berkeley.edu/tjm2/review/treatments/fabaceae_all.html#15046), as well as *The Jepson Manual* (1993). The *Flora of North America* treatment for Fabaceae has not yet been published. It is distinguished from its close relative, *Astragalus aridus*, by the ascending to spreading, wavy hairs on the plant and fruit, as well as its high number of ovules: 10-19 as opposed to 3-7 (*The Jepson Manual, Second Edition*). Although several synonyms of this species have been described since Gray's (1878) original description (i.e., *Astragalus virgineus*, *Phaca sabulorum*, *Phaca arenicola*, and *Phaca lerdoensis*; Shreve and Wiggins 1964), the recognition of this species as a unique taxon is not disputed among recent botanists. *Astragalus sabulorum* has been observed flowering in California from February until June.

Astragalus sabulorum occurs in both the Mojave and Sonoran deserts of southeastern California. It is most commonly associated with sand – in the form of sand dunes, sandy flats, sandy washes, and sandy roadsides – although silt and clay make up important components of the loamy soils at some of the occurrences (Consortium of California Herbaria (CCH) 2011, Wiggins 1980). The plant's common name, "gravel milk-vetch," likely stems from its affinity for gravelly washes (see *Intermountain Flora*, Vol. 3b), but CCH records and most floras indicate sand to be a more frequent substrate throughout its range. In California, the plant occurs from 60 meters below sea level to as high as 930 meters (CCH 2011); in other states, it reaches elevations as high as 2000 meters (*The Jepson Manual, Second Edition*).

Astragalus sabulorum is known from approximately **17** ~~18~~ occurrences in California, only **three** ~~two~~ of which have been observed in the last 20 years (occurrences not seen in the past 20 years are considered historic by the CNDDDB). Discerning the exact number of occurrences is difficult due to vague location descriptions associated with some old collections. The occurrences are spread across California's deserts, in Imperial, Inyo, and Riverside counties, with one additional occurrence from San Diego County. There are occurrences in Death Valley National Park, on Bureau of Land Management properties, and on private properties. An occurrence from Joshua Tree National Park (Calphotos 2011) is a misidentification (D. Slakey pers. obs.). Because

much of the desert is so poorly explored by botanists, *A. sabulorum* should be sought for in other low-elevation, sandy sites in California's deserts.

Being rather common in some southwest states, *Astragalus sabulorum* is a G5 species (Secure; NatureServe 2011), and is ranked S1 (Critically Imperiled) in New Mexico. While some occurrences of *A. sabulorum* are secure, such as those from [the Panamint Valley dunes in Death Valley](#), [others from the Eureka Dunes in Death Valley NP](#) are threatened by *Salsola*, as well as direct human disturbance at the dunes from sleds and illegal off-road driving (D. York pers. comm. 2011). The occurrence from Coachella Valley (*A.C. Sanders and J.M. Stewart 5408B, UCR37709*) is extirpated as the entire area has been converted to irrigated agriculture (*A. Sanders pers. comm. 2011*). Furthermore, many others occurrences are found on low-elevation valley bottoms that have been proposed for solar development (J. Andre pers. comm. 2010). Threats from solar development make this species an important conservation priority in California.

Based on the available information, CNPS and CNDDDB recommend that *Astragalus sabulorum* be added to California Rare Plant Rank 2.2 of the CNPS Inventory.

Recommended Actions

CNPS: Add to CNPS 2.2

CNDDDB: Add to CNDDDB G5 / S2

Please review the draft CNPS Inventory record below, respond Yes or No on the proposal to add this species to the Inventory and CNDDDB, and provide any edits/comments. If responding No, please provide supporting information.

Draft CNPS Inventory Record

Astragalus sabulorum A. Gray

gravel milk-vetch

Fabaceae

Rank 2.2

Imperial, Inyo, Riverside, San Diego

Arizona, New Mexico, Nevada, Utah; Sonora, Mexico; ~~Baja California~~

Calvada Springs (274B) 3511588, Harper's Well (030C) 3311518, Hopkins Well (059C) 3311458, Indio (064B) 3311662, Kane Spring NE (030A) 3311527, Last Chance Range SW (390C) 3711716, Mecca (064D)* 3311651, Mount Signal (005B) 3211566, Niland (029A) 3311525

Desert dunes, Mojavean desert scrub, Sonoran desert scrub / usually sandy, sometimes gravelly, flats, washes, roadsides; elevation -60 to 930 meters.

Annual/perennial herb. Blooms Feb-Jun.

Potentially threatened by solar energy development. [Possibly threatened by vehicles, recreational activities, and non-native plants.](#) See *Proceedings of the American Academy of Arts and Sciences* 13:361-374 (1878) for original description.