

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

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Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Astragalus cremnophylax* var. *hevronii*

COMMON NAME: Marble Canyon milk-vetch, Hevron's milkvetch, sentry milkvetch

SYNONYMS:

FAMILY: Fabaceae

AUTHOR, PLACE OF PUBLICATION: R. Barneby, Brittonia 44(2): 238. 1992.

TYPE LOCALITY: East rim of Marble Canyon, directly above Redwall Cavern on the Colorado River, Coconino County, Arizona.

TYPE SPECIMEN: HT: NY-5385, flower. B. Hevron 1077, 17 April 1991.

TAXONOMIC UNIQUENESS: This genus contains 1,500 species occurring throughout the subtropical and temperate parts of the world and is the largest genus of flowering plants in Arizona; 350 species occur in North America; over 100 species occur in Arizona (Kearney & Peebles 1951; USDA, NRCS 2004). *Astragalus cremnophylax* var. *hevronii* is 1 of 3 varieties of *A. cremnophylax*, and is closely related to *A.c.* var. *myriorrhaphis* (sentry milkvetch). Variety *hevronii* occurs in a narrowly defined habitat, and is highly isolated from the other varieties.

DESCRIPTION: Dwarf plant, evergreen, perennial herb, forming a mat less than 1.5 cm high, and (2-)2.5-16 cm [(0.8-)1-6.3 in] in diameter. Short creeping stems 1.2 cm long with 5-9 compound leaflets with dolabriform hairs; leaf bases produced in the fall disjoint readily when dry, leaving the rachis as a stiff, upright spinescent structure. The relatively large and bright flowers are pale purplish-lilac and usually held slightly above the mat; exerted banners 7-8 x 4.4-6 mm, the keel 5.2-5.4 mm. Fruit is unilocular, obliquely egg-shaped, and densely hairy; seeds orange. (Falk, Jenkins et al. 2001, Roth 2001).

AIDS TO IDENTIFICATION: Similar varieties include *A. c.* var. *cremnophylax* (sentry milkvetch) and *A. c.* var. *myriorrhaphis*, and species *A. humillimus* (Mancos milkvetch) from New Mexico. All of these are considered rare and are geographically isolated from one another. Foliage resembles *A.c.* var. *myriorrhaphis*, but *A.c.* var. *hevronii* has larger flowers, and it lacks spinescent leaf bases. It is distinguished from var. *cremnophylax* by its larger flower, and from *A. calycosus* (Torrey's milkvetch) by unilocular fruit and smaller leaflets.

ILLUSTRATIONS:

Color photo of Holotype (NYBG, NY-5385,

<http://sciweb.nybg.org/science2/VirtualHerbarium.asp>)

Color photos of plant and habitat (Daniela Roth (NNHP), *in* Falk, Jenkins et al. 2001)

Line drawing (B. Dennis, *in* Falk, Jenkins et al. 2001)

TOTAL RANGE: Known from the rim of the Marble Canyon, south of Shinumo Wash, north to Sheep Springs Wash, Coconino County, Arizona. Potential distribution on the Navajo Nation includes Marble Canyon, from the Little Colorado River Gorge to Navajo Bridge, where habitat is suitable.

RANGE WITHIN ARIZONA: See “Total Range.”

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial. Dwarf, mat forming habit

PHENOLOGY: Flowering late April to May, fruiting May to June.

BIOLOGY:

HABITAT: Great Basin desertscrub habitat, on rim-rock benches at the canyon edge in crevices and depressions with shallow soils on Kaibab Limestone.

ELEVATION: 5,200 - 5,400 ft. (1586-1647 m).

EXPOSURE:

SUBSTRATE: Shallow soils on Kaibab Limestone.

PLANT COMMUNITY: Great Basin desertscrub. Associated species include: *Agave* sp., *Arenaria* (sandwort), *Fallugia paradoxa* (Apache plume), *Gutierrezia sarothrae* (broom snakeweed), *Lotus* sp. (deervetch), and *Phlox hoodii* (Hood’s phlox). (NYBG, NY-803146)

POPULATION TRENDS: Unknown. In 1997, six sites with about 265 plants were located (Falk and Jenkins et al. 2001).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS: Group 3 (NNDFW, NESL 2005)
[Group 3 (NNDFW, NESL 1994)]
Forest Service Sensitive (USDA, FS Region
3 1999, 2007)

Bureau of Land Management Sensitive
(USDI, BLM AZ 2008, 2010)

MANAGEMENT FACTORS:**CONSERVATION MEASURES TAKEN:**

SUGGESTED PROJECTS: Survey potential habitat between the Little Colorado River Gorge and the Navajo Bridge, for additional populations.

LAND MANAGEMENT/OWNERSHIP: BIA Navajo Nation. Within one mile of Kaibab National Forest.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

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ADDITIONAL INFORMATION:

Revised: 1991-12-18 (JGH)
1994-06-14 (DBI)
1994-07-23 (BGP)
1995-05-23 (DBI)
1999-08-13 (DJG)
2005-09-15 (SMS)

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