

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

Plant Abstract

Element Code: PDFAB0F470

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Astragalus hypoxylus* Wats.

COMMON NAME: Huachuca Milk-vetch

SYNONYMS: *Hamosa hypoxylus*; *H. hypoxyla*; *Tragacantha hypoleuca*

FAMILY: Leguminosae

AUTHOR, PLACE OF PUBLICATION: Watson, S. 1883. Proceedings of the American Academy of Arts and Sciences 18: 192.

TYPE LOCALITY: Arizona: Cochise County: Mahoney's Ranch, near Ft. Huachuca.

TYPE SPECIMEN: J.G. Lemmon. July 1882.

TAXONOMIC UNIQUENESS: A member of the pea family, the genus *Astragalus* is the largest genus of vascular plants world-wide. The genus contains over 2,000 species distributed throughout the world although they are primarily found in the northern hemisphere (Barneby 1989 and Zomlefer 1994, cited in USFWS 2006). Many species of *Astragalus* are narrow endemics, while relatively few are widespread.

DESCRIPTION: **Compact rosette of branches**, generally less than 10.0 cm (4.0 in.) in diameter, **typically flat against ground**, although the outer ends of branches may turn upward somewhat. Alternate leaves are compound with 9-13 ovate leaflets of 3.0-5.0 mm long, gray-green in color and glabrous above and sparsely pubescent underneath. **Leaflets appear folded along midrib. Inflorescence very compact and globose**, ca. 1.0 cm (0.4 in.) in diameter, somewhat resembling clover inflorescence. Flowers about 6.0 mm long with petals whitish with pale purple tips. Fruits are small oval pods 8.0-10.0 mm long and 3.0-4.0 mm in diameter. Pods indehiscent. Mature fruits typically pale yellowish toward base and are purplish toward tip.

AIDS TO IDENTIFICATION: The dense, subcapitate inflorescence with mat-forming growth, distinguish this milk-vetch from others in the area.

ILLUSTRATIONS: USFWS Line Drawing.

TOTAL RANGE: Southern Arizona, into Sonora, Mexico.

RANGE WITHIN ARIZONA: Cochise County: Huachuca Mountains; Santa Cruz County: Patagonia mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: March - April with fruit into May; Plants have dried up by June.

BIOLOGY: Seeds may be heavily parasitized by chalcid wasps.

HABITAT: Open, limestone rocky clearings in oak-juniper-pinyon woodland. Found on hillsides with slopes of 25 to 30 percent, generally unshaded. Distinctive during the summer when other *Astragalus* have died back. May be dependent on some mild disturbance regime. Bear Creek population within Lone Mountain Allotment.

ELEVATION: 5,300 - 6,100 feet (1590-1861 m).

EXPOSURE: Southerly to southwesterly.

SUBSTRATE: Loosely consolidated, very gravelly or cobbly soil of limestone/metamorphic mix (association with limestone uncertain).

PLANT COMMUNITY: Openings in woodland of Emory oak, Mexican blue oak, alligator juniper and Mexican pinyon.

POPULATION TRENDS: High mortality due to drought in 1989-1990. See Gori et al. (1990) for demographic information. The populations show huge fluctuations in relation to the amount of rainfall. Current population status is not well known.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[Category 2 USDI, FWS 1993]

STATE STATUS: Salvage Restricted (ARS, ANPL accessed 2011)
[Salvage Restricted (ARS, ANPL 1993)]

OTHER STATUS: Bureau of Land Management Sensitive (USDI, BLM AZ 2000, 2005, 2008, 2010, 2017)
Forest Service Sensitive (USDA, FS Region 3 1990, 1999, 2007, 2013)

MANAGEMENT FACTORS: Threats: Trampling by recreationists and livestock; degradation of habitat due to livestock grazing. Evidence that the population in Bear Canyon was extirpated due to excessive livestock trampling. Additionally, their limited range and small numbers, make this species susceptible to human disturbance. Management objectives

include improvement of livestock management, and improved trail and off-road vehicle management.

CONSERVATION MEASURES TAKEN: Monitoring plots established in 1988 at the Patagonia Mountains (Harshaw Road) population. Additional monitoring plot at a Huachuca Mountains population (Bear Canyon) established in 1989.

SUGGESTED PROJECTS: Continue monitoring/surveying.

LAND MANAGEMENT/OWNERSHIP: USFS - Coronado National Forest, and private (Scotia Canyon). DoD - Fort Huachuca (based on a single specimen [Lewis 2422 NYBG]).

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:8.
Arizona Revised Statutes, Chapter 7. Arizona Native Plant Law. Accessed 2011, AZDA.
<http://www.azda.gov/ESD/protplants.htm>.
- Barneby, R.C. 1964. Memoirs of the NY Bot. Garden. 13:1028-1029.
- Gori, D.F., P.L. Warren, and L.S. Anderson. 1990. Population studies of sensitive plants of the Huachuca, Patagonia, and Atascosa Mountains, Arizona. Prepared by The Nature Conservancy for Coronado National Forest. 114 pp.
http://www.centerforplantconservation.org/collection/cpc_viewprofile.asp?CPCNum=9549
- Levin, G.A. Noteworthy collections. Madroño, vol. 34, No. 2, pp. 170-171.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 2007. Regional Forester's List of Sensitive Plants.
- USDA, Forest Service Region 3. 2013. Regional Forester's List of Sensitive Plants.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Bureau of Land Management. 2005. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2008. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2010. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2017. Arizona BLM Sensitive Species List.
- USDI, Fish and Wildlife Service. 1993. Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 58(188):511518.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40):7595-7613.
- Warren, P.L., L.S. Anderson, and P.B. Shafroth (The Nature Conservancy). 1989. Population studies of sensitive plants of the Huachuca and Patagonia mountains, Arizona. For USFS Coronado National Forest. 99 pages.

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ADDITIONAL INFORMATION:

This species is sometimes found in ditches along roadsides. It appears to respond favorably to some disturbance.

Revised: 1989-10-25 (SST)
1991-10-18 (BKP)
1991-12-04 (SR)
1998-01-06 (SSS)
1999-08-13 (DJG)
2022-01-27 (TME)

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Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.