

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

**Plant Abstract**

**Element Code:** PDFAB0F262

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Astragalus cobrensis* var. *maguirei* Kearney

**COMMON NAME:** Coppermine Milk-Vetch

**SYNONYMS:** *Atelophragina cobrense* var. *maguirei*

**FAMILY:** Fabaceae

**AUTHOR, PLACE OF PUBLICATION:** Kearney, T. H. Leaflets of Western Botany.

**TYPE LOCALITY:** Arizona: Chiricahua Mountains: White Tail Canyon.

**TYPE SPECIMEN:** ARIZ. Maguire, Richards and Moeller 11079.

**TAXONOMIC UNIQUENESS:** Genus *Astragalus* is very large, globally over 2,000 species with over 100 in Arizona. Within the genus *Astragalus*, the species *cobrensis* occupies subsection Strigulosis. Variety *maguirei* is distinguished from the typical form of the species by more copious pubescence, which is stiff and spreading.

**DESCRIPTION:** Perennial herb with flowering stems arising from slender, creeping rootstocks. Leaves pinnately compound, scattered along stems; **mature leaflets more than 4.0 mm (0.16 in.) wide** with distinct notch at the apex, covered with appressed hairs; flowers less than 10.0 mm (0.4 in.) long, violet or white with violet veins; calyx teeth nearly as long as tube; calyx covered with mostly black hairs (some white); stems have spreading, copious pubescence; pods nearly symmetric and nearly straight, **not inflated**, imperfectly 2-celled, elliptic or oblong (looks like broad-bottomed boat). Slender, creeping rootstocks and notch at leaflet apex are distinguishing characteristics.

**AIDS TO IDENTIFICATION:** Cannot identify using Kearney et al. (1960). *A. cobrensis* var. *maguirei* has stiff and spreading, more copious pubescence and the leaflets are slightly hairy on the upper surface. Can be distinguished from other *Astragalus* in the area by the following combined features: flowering stems from creeping rootstocks (perennial), and nearly straight, symmetric pods. *A. cobrensis* var. *cobrensis* is geographically separate (only found in the Gila River drainage), the leaflets are glabrous on the upper surface, stems have strigulose hairs, and the calyx has more white hairs than black.

**ILLUSTRATIONS:** Photocopy of specimens (HDMS file); USFWS Line Drawing.

**TOTAL RANGE:** Bennett et al. (1996) state the range of variety *maguirei* as Southern Arizona and southwestern New Mexico.

**RANGE WITHIN ARIZONA:** Cochise County: Chiricahua and Peloncillo Mountains; also possibly Graham County: Pinaleno Mountains.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial.

**PHENOLOGY:** Flowering begins late March, continuing through May (distinguishing characteristic). Fruiting lags behind anthesis, but mature fruit can usually be observed by mid-April in most years.

**BIOLOGY:**

**HABITAT:** Shady canyons (near stream bottoms) and lower ledges both in full sun (often on rocky soils) and in the shade (found on more organic soils composed of leaf litter). Malusa (1992) reported new population growing on north facing slopes up to 7000 ft. in understory of Douglas fir. On level terraces above normal water flow.

**ELEVATION:** 5,080 - 7,450 feet (1549-2272 m), perhaps up to 9,000 feet (2700 m).

**EXPOSURE:** North (Malusa, 1992).

**SUBSTRATE:** Shattered rock and rich humus.

**PLANT COMMUNITY:** Pinyon pine/alligator juniper, alligator juniper/mixed oak, apache pine/ponderosa pine communities and the various transition phases.

**POPULATION TRENDS:** Declining.

**SPECIES PROTECTION AND CONSERVATION**

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

**STATE STATUS:** Salvage Restricted (ARS 1993)

**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1999)  
[Forest Service Sensitive USDA, FS Region 3 1990]

**MANAGEMENT FACTORS:** Rare. When observed, plant is on canyon bottoms which are areas of high impact due to grazing (plant does not accumulate selenium and is palatable), recreation, mining, and a suite of natural disturbances. Plant has potential for occurring farther south. In general, occurs in highly vulnerable narrow, shady canyons (riparian habitat required). Only slim possibility of being on BLM land. More of a concern for U.S. Forest Service managing canyon bottoms as recreation (throw-down camping) can impact populations.

**CONSERVATION MEASURES TAKEN:** Recreation (particularly camping) could become a problem.

**SUGGESTED PROJECTS:** Population surveys and monitoring (particularly Pinery Canyon).

**LAND MANAGEMENT/OWNERSHIP:** NPS - Chiricahua National Monument; USFS - Coronado National Forest; Private.

**SOURCES OF FURTHER INFORMATION****LITERATURE CITATIONS:**

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:8.
- Barneby, R. 1964. Atlas of the North American *Astragalus*. Memoirs of New York Botanical Garden Vol 13, Part 1, page 192.
- Bennett, P., Johnson, R. and M. Kunzman. 1996. An annotated list of the vascular plants of the Chiricahua Mountains: Including the Pedregosa Mountains, Swisshelm Mountains, Chiricahua National Monument, and Fort Bowie National Historic Site. USGS Biological Resources Division, Cooperative Park Studies Unit, Special Report No. 12. pg. 117.

- Gori, D. 1994. Bureau of Land Management, Safford District, Rare Plant Workshop. November 14-16. Tucson, Arizona.
- Kearney, T.H., R.H. Peebles with collaborators. 1960. Arizona flora. Second edition with supplement by J.T. Howell, E. McClintock and collaborators. University of California Press. Berkeley.
- Malusa, J., D.F. Gori, P.L. Warren and E.S. Monarque (TNC). 1992. Population studies of sensitive plants of the Coronado National Forest, Arizona.
- Porter, M. 1991. Notes prepared for the Coronado National Forest Sensitive Plant Workshop, Tucson, Arizona.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's 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):51151.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40):7595-7613.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

- Rupert Barneby - New York Botanical Garden, Bronx
- Dave Gori - The Arizona Nature Conservancy, Tucson.
- Jim Malusa - University of Arizona, Tucson
- Mark Porter - Rancho Santa Ana Botanical Garden, Clairmont, CA.

**ADDITIONAL INFORMATION:**

Plants observed by Jim Malusa in the Peloncillo Mountains were apparently intermediate between var. *maguirei* and var. *cobrensis*.

**Revised:** 1991-04-15 (PLW)  
 1991-10-18 (BKP)  
 1991-12-04 (SR)  
 1994-10-19 (PLW)  
 1998-01-05 (SSS)  
 1999-08-13(DJG)

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Arizona Game and Fish Department. 1999. *Astragalus cobrensis* var *maguirei*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 3 pp.