

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

Plant Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Astragalus nidularius*
COMMON NAME: Bird's-Nest Milkvetch
SYNONYMS: none
FAMILY: Fabaceae

AUTHOR, PLACE OF PUBLICATION: Barneby, Rupert Charles. Leaflets of
Western Botany 8(1): 16-17. 1956.

TYPE LOCALITY: Utah: San Juan County: Near the head of White Canyon, 2 mi.
below the Kachina Natural Bridge on road down to Hite's Ferry. Alt. 5800 feet.

TYPE SPECIMEN: CAS 27659 (holotype). R.C. Barneby, #12777. May 19, 1955.

TAXONOMIC UNIQUENESS: *Astragalus* is believed to be the largest genus of flowering plants in the world, with over 2500 species worldwide and over 400 species in North America alone, primarily in arid regions of the western U.S. There are an additional 200 plus varieties found in the U.S. and Canada as well. *A. nidularius* is a species of limited distribution in Utah and northern Arizona.

DESCRIPTION: Perennial from buried root-crown, the wiry, sparsely leafy stems repeatedly branched or spurred upward, forming depressed, bushy plants 1-3.5 dm tall, the foliage strigulose with basifixed hairs, greenish-cinereous, the numerous loose racemes far exserted; stipules 1.5-6 mm long, dimorphic, the lowest broadly ovate, papery, adnate to vestigial petiole to form a strongly amplexicaul sheath but not connate, the upper ones herbaceous, mostly smaller; leaves 1.5 – 4.5 (6) cm long, with 5-9 (11), distant, linear or linear-oblong-oblancheolate leaflets 2-11 (13) x 0.3-2 (2.5) mm, those of proximal leaves all petiolulate, the terminal one of reduced upper leaves often confluent with rachis; peduncles loosely or remotely (3) 7-30 flowered, the incurved-ascending peduncle 4-11 cm long, the raceme-axis becoming (1.5) 4-20 cm long; bracts +/- 1-2 mm long; pedicels recurved or reflexed, 1.5-3 mm long; calyx black- or partly white-strigulose, (4) 4.5-6.5 (7) mm long, the cylindric-campanulate tube 3.5-5 mm long, the subulate teeth (0.5) 0.7-2 mm long; petals pink-purple, the moderately recurved banner (9) 10-12 (14) mm long, the wings a little shorter, the keel 7.5-10 mm long, incurved through 90 degrees to blunt apex; ovary strigulose; ovules (16) 20-26; pod deflexed, stipitate, the stipe 2.5-5 (6) mm long, the linear-oblong or – oblancheolate, straight or slightly decurved body 17-32 x 3-4.5 mm, dorsiventrally compressed, carinate ventrally by the thickened suture, flattened or shallowly depressed dorsally, bluntly

angled laterally, the firm, green or purplish valves becoming stiffly papery, brownish-stramineous, not inflexed, tardily separating at apex and downward through ventral suture (Barneby 1956).

AIDS TO IDENTIFICATION: A wiry perennial herb, 1.5-5 dm tall. The sparsely leafy stems are branched and the branches are curved inwards, forming low, loosely entangled, bushy plants (NatureServe 2015).

This species closely resembles *A. episcopus* when in flower, but is readily distinguished by the stipitate, dorsiventrally compressed pod (Cronquist et al 1989). It is also a close ally of *A. harrisonii*, but is separated geographically as well as having larger flowers and coarser pods (Welsh et al 1993).

This species is related to *A. lancearius* and *A. duchesnensis*, closely resembling the former in its repeatedly forking and incurved stems and branches which tend to assume, at least in compactly growing individuals, the bird's-nest architecture of some annual *erigonums*, while it somewhat approaches the latter in the dorsoventral compression of the pod. It differs from both, however, in the presence of a well-developed stipe, a feature unique in its immediate group. It can be distinguished further from *A. lancearius* by the more numerous and better-developed leaflets, and from *A. duchesnensis* by the color of the petals, uniformly pink-purple in the present case, conspicuously bicolored in the other, where the white wing-tips contrast with a reddish-purple banner and keel.

On account of their similar stipules and fruits *A. nidularius* must be compared further with *A. lonchocarpus* and *A. Schmollae*. Both are larger and coarser plants, differing in general aspect, in details of foliage, larger ochroleucous flowers nodding at full anthesis, as well as other details. *Astragalus Coltoni*, resembling *A. nidularius* in habit, in the purple (but ordinarily larger and always nodding) flowers, and stipitate pod, is readily separated by the lateral compression of the pod-body, which is moreover uniformly glabrous (Barneby 1956).

ILLUSTRATIONS:

Herbarium Mounts:

<http://swbiodiversity.org/seinet/taxa/index.php?taxon=Astragalus%20nidularius>.

Photo:

http://explorer.natureserve.org/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptImages.wmt&selectedReport=RptImages.wmt&summaryView=tabular_report.wmt&elKey=132573&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=132573&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=132573.

TOTAL RANGE: In Utah, known only from a very restricted area (about 150 km wide); the immediate tributaries of the Green and Colorado rivers downstream from Horseshoe Canyon in NE Wayne Co. to E Garfield and adj. San Juan Counties. Also in northern Arizona.

RANGE WITHIN ARIZONA: Extreme NW Navajo County, on the north side of Black Mesa and in Piute Canyon.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herb.

PHENOLOGY: Flowers: Late April to June.

BIOLOGY:

HABITAT: Pinyon-juniper and mixed desert shrub communities in sand or clay soils on red sandstone canyon benches and cliff-base talus slopes.

ELEVATION: 4430 – 6230 feet (1350-1900m) from Barneby 1956. The two mappable collections in Arizona range from 5300 – 6580 feet (1615-2005m).

EXPOSURE:

SUBSTRATE: Sandy and clayey soils.

PLANT COMMUNITY: Pinyon-Juniper and Desert Shrub communities.

POPULATION HISTORY AND TRENDS: Unknown. There is no data on abundance from the known Arizona collections, but Barneby (1989) reported the species as “locally plentiful” some places in Utah. More specifically, Schultz et al (1987), state that there are large populations in both the South and Main forks of Happy Canyon, Utah. Plants grow in little used roadbeds and washes. Populations appear healthy, as an abundance of seedlings and young plants were found in 1983. There is no information regarding long-term or short-term trends. *A. nidularius* is considered by NatureServe to be vulnerable in Utah and critically imperiled in Arizona, which is the southern extension of the species.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: Not specified.

PROTECTIVE MEASURES TAKEN: None.

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: USDI Bureau of Indian Affairs – Navajo Nation.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

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Abstract