

-State Species Abstract-  
-Wyoming Natural Diversity Database-

*ASTRAGALUS BARRII*  
BARR'S MILKVETCH  
Family: Fabaceae

Status:

US Fish & Wildlife Service: None (former  
C2 candidate for listing under the  
Endangered Species Act, dropped in 1993).  
Agency Status: USFS Region 2: Sensitive

Heritage Rank:

Global: G3 State: S3  
Range Context: Regional endemic/Core  
Wyoming Contribution Rank: High

Description: Barr's milkvetch is a stemless, mat-forming perennial forb forming low cushions less than 15 cm tall and up to 30 cm across. Leaves are 1-4 cm long, palmately compound with 3 linear to oblong leaflets, and silvery pubescent. Stipules are 4-8 mm long, membranous, glabrous on the surface, and fused into a tube. The inflorescence consists of 2-5 short-stalked flowers borne on short peduncles that do not exceed the leaves. The calyx is over 4.5 mm long with a fused tube 3.5-5 mm long. The corolla is pink-purple (turning blue with age) and consists of a spoon-shaped banner petal 10-16 mm long, 2 wing petals 9-13 mm long, and a fused keel 7.5-10 mm long. Fruits are narrow, papery, silver-hairy pods often with only 1-3 seeds (Great Plains Flora Association 1986; Marriott 1992, Heidel and Marriott 1996).

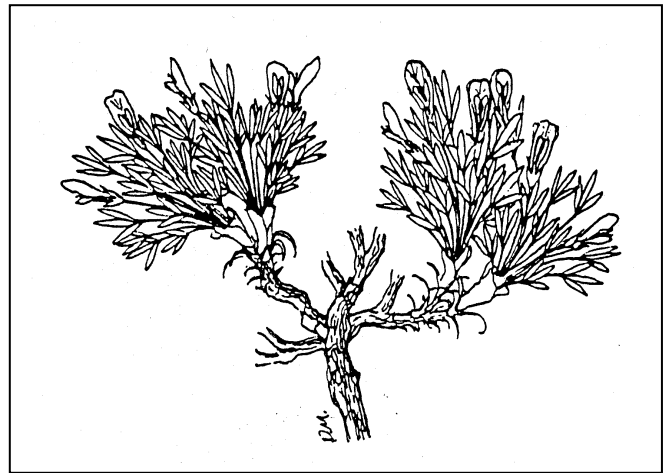
Synonyms: *Orophaca barrii*

Similar Species: *Astragalus sericoleucus* and *A. aretioides* have banners less than 8 mm long and calyces 2.5-4.2 mm long. *A. tridactylus* has a keel 4.5-7.2 mm long and pubescent lower stipules. *A. gilviflorus* and *A.*



Above: *Astragalus barrii* by Bonnie Heidel

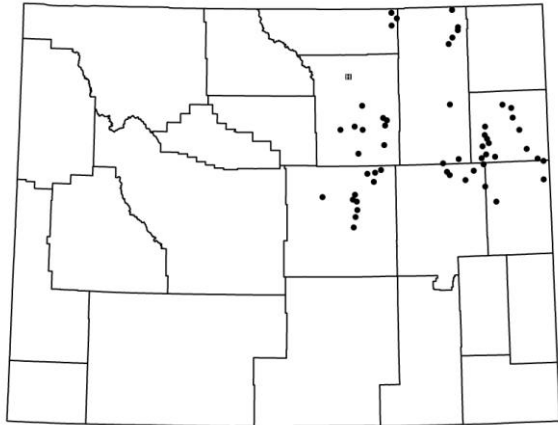
Below: *A. barrii* by Debbie McNeil (from Schassberger 1990)



*hyalinus* have sessile, yellow or whitish flowers. *A. spatulatus* has stalked flowers and simple leaves (not divided into leaflets).

Flowering/Fruiting Period: Flowers from late April-early June. Fruits from late May-August

Distribution: Regional endemic of the Great Plains in southeastern Montana, northeastern Wyoming, southwestern South Dakota, and northwestern Nebraska. In Wyoming, Barr's milkvetch occurs in Campbell, Converse, Johnson, Natrona, Niobrara, Sheridan, and Washakie counties.



Wyoming distribution of *Astragalus barrii*.

**Habitat:** Barr's milkvetch is found primarily on dry, sparsely-vegetated rocky prairie breaks, knolls, hillsides, and ridges on calcareous soft shale and siltstone or silty sandstone. It is restricted to upper- and mid-slope topographic positions, often on north- and east-facing aspects. It occurs with *Elymus lanceolatus*, *Musineon divaricatum*, *Stenotus acaulis*, *Hymenoxys richardsonii* and *Machaeranthera grindelioides*. In Wyoming, populations occur at elevations of 3600-6000 feet.

**Occurrences in Wyoming:** Known from 54 extant populations, one possibly extirpated population and one vague historical record.

**Abundance:** Populations surveyed by Marriott (1992) ranged in size from several hundred to over 10,000 individuals.

**Trends:** Most populations appear to be stable, although it may decline under drought. Current trends since the coal bed methane boom are not known.

**Protection status:** All known populations are found on public, state, or private lands managed for multiple use.



Above: Habitat of *Astragalus barrii* on yellowish soils of ridgecrest in the Powder River Breaks, WY. Photo by Hollis Marriott.

**Threats:** Marriott (1992) reported few threats to most Wyoming populations, although at least one population has been lost due to expansion of a surface coal mine, and another has been reduced due to bentonite mining. Oil and gas development are potential threats (Marriott 1992). The subsequent expansion of oil and gas development, and more recent coal bed methane development, has not been evaluated. The habitat is not well-suited for industrial sites but may be destabilized, affected by associated road developments, or indirectly affected by spread of non-native species, e.g., yellow sweetclover (*Melilotus officinalis*), bulbous bluegrass (*Poa bulbosa*), and blue mustard (*Chorispora tenella*). In South Dakota, zeolite mining and off-road vehicle recreation have also been cited as threats.

**Managed Areas:** Occurrences are found on lands managed by the BLM Buffalo, Casper, and Newcastle Field Offices and Thunder Basin National Grassland.

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