

-State Species Abstract-  
-Wyoming Natural Diversity Database-

*ASTRAGALUS PROIMANTHUS*  
PRECOCIOUS MILKVETCH  
Family: Fabaceae

Status:

US Fish & Wildlife Service: Petitioned in 2007 (Former Category 2 candidate for listing under the Endangered Species Act).

Agency Status: WY BLM Sensitive

Heritage Rank:

Global: G1 State: S1

Wyoming Contribution Rank: Very high  
(State endemic)

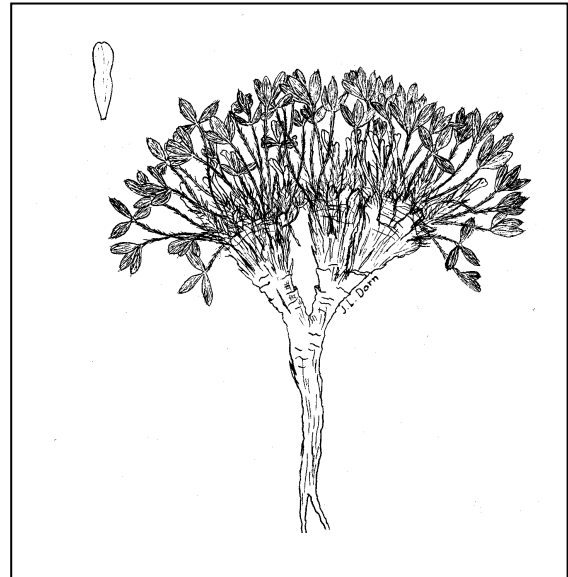
Description: Precocious milkvetch is a stemless perennial forb forming low cushions 2-3 dm in diameter. The herbage is densely silvery-whitish throughout with ascending, twisted or spreading hairs 1.5-3 mm long. Leaves are densely clustered, 1-3.5 mm long, and have three narrowly oblanceolate to elliptic leaflets 5-9 mm long. Stipules are fused at the back, whitish-membranous, 7-12 mm long, and glabrous except for ciliate margins. The yellow or whitish pea-like flowers (often tinged with lavender or pink, especially on the throat) are up to 17 mm long, sessile, erect, and borne in pairs among the basal leaves. The calyx is 8-10.5 mm long with a cylindrical tube 6-6.5 mm long. The banner petal is distinctly constricted in the middle (giving the whole banner a fiddle-like shape) and is glabrous on the back. Fruit pods are sessile, 7-10 mm long, narrowly elliptic to ovoid, slightly flattened from the sides, densely fine-hairy, and have 11-14 ovules (Barneby 1964; Roberts 1977; Dorn and Dorn 1980; Dorn 2001, Fertig et al. 1994; Isley 1998).

Synonyms: *Orophaca proimantha*.

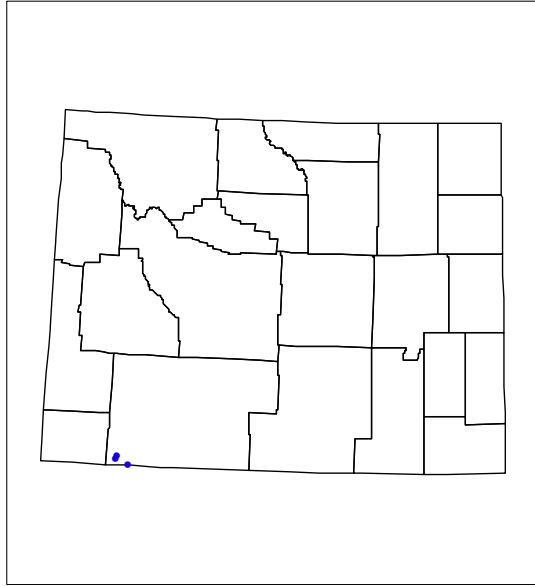


Above: *Astragalus proimanthus* by Charmaine Refsdal Delmatier (from Fertig et al. 1994).

Below: *A. proimanthus* by Jane Dorn (from Dorn and Dorn 1980).



Similar Species: *Astragalus gilviflorus* has larger flowers and spoon-shaped banner petals 16-28 mm long. *A. hyalinus* has fiddle-shaped banners that are hairy on the back and smooth pubescence on the stems, calyces, and foliage. An undescribed "orophacoid" *Astragalus* from Park County, Wyoming has predominantly white flowers (often with lavender lines or a lavender tinge) and 6-8 ovules per fruit. Other "Orophaca" species of *Astragalus* in Wyoming have smaller flowers (banners are 5-16.5 mm long and calyx tubes



Global distribution of *Astragalus proimanthus*.

under 5.5 mm long) that are borne on short peduncles (Barneby 1989; Dorn 1992; Fertig et al. 1994).

**Flowering/Fruiting Period:** This species has been observed in bud and flower as early as April 28, and continues to flower throughout May and often into mid June. Fruits are produced from mid May to late July (Roberts 1977). Fruit production may be limited during drought years, as is evidenced by low reproductive output observed at 10 sites in 2000.

**Distribution:** *Astragalus proimanthus* is a narrow endemic restricted to the bluffs of the Henry's Fork River and vicinity of McKinnon in the southern Green River Basin in southwestern Sweetwater County, Wyoming. The entire global distribution of the species is limited to less than 320 acres within an area of 4 x 14 miles.

**Habitat:** *Astragalus proimanthus* occurs primarily on sparsely vegetated rims and gullied upper slopes of benches, bluffs, and mesa-like ridges at the elevations of 6400-

7200 feet (1950-2195 m). Populations are typically found in cushion plant/bunchgrass communities dominated by *Phlox hoodii*, *Haplopappus nuttallii*, *Cryptantha sericea*, and *Elymus spicatus* in openings within *Artemisia tridentata* or *Juniperus osteosperma* grasslands. Occasionally, colonies may also occur on open toe slopes of ridges within a matrix of *Artemisia nova*, *Sarcobatus vermiculatus*, *Juniperus osteosperma*, and *Grayia spinosa*. Vegetation cover is typically less than 5-10%. Soils are whitish, fine-textured, dry, shallow, calcareous shale clays covered with a dense layer of coarse cobbles, whitish shaley flakes, and dark volcanic rock. The populations along the bluffs of the Henry's Fork River and Lane Meadow Creek (north of McKinnon) are found on substrates derived from the Eocene-age Bridger Formation, while the population near the mouth of Cottonwood Creek is found on banded red and brown clays and gravels of the Laney member of the Eocene Green River Formation (Love and Christiansen 1985). Colonies may occur on any aspects, but are most common on flats or south to west-facing slopes of 1-30%.

Below: Habitat of *Astragalus proimanthus* on outcrops of the Bridger Formation along the banks of the Henry's Fork. Photo by Hollis Marriott.



Occurrences in Wyoming: Known from 3 extant occurrences (all discovered or relocated in 2000) consisting of 26 subpopulations.

Abundance: Laura Welp and Jim Glennon documented 2644 plants in 11 colonies in 2000 and estimated the entire state population at 10,500-13,000 (Fertig and Welp 2001). Previously, Marriott (1989) had estimated the population size at 25,000-40,000 individuals and Robert Lichvar had estimated ca 22,000 individuals in 1981 (Whiskey Basin Consultants 1981). Individual colonies typically range in size from 0.1-40 acres and may number one dozen plants to over 3200 (Fertig and Welp 2001).

Trends: Trend data from 5 monitoring plots established by Marriott (1989) suggest an overall stable to slightly decreasing population that experiences unexpected yearly or short-term fluctuations in population size, density, and distribution. Sites near the McKinnon dump have experienced a long-term decline, while 2 of 3 plots along Powerline Ridge have experienced a net increase.

Protection status: One extensive occurrence is found within a Special Status Plant ACEC managed by the BLM Rock Springs Field Office. A mineral withdrawal for the area is still being pursued. Other newly discovered populations currently have no formal protection and occur on public lands managed for multiple use.

Threats: Existing and potential threats include: road construction, off-road vehicle trampling, oil/gas exploration and development, garbage dumps, grazing, and range improvement projects (Marriott 1989). The plant's limited range makes it vulnerable to extirpation.

Managed Areas: Occurs on lands managed by the BLM Rock Springs Field Office and the state of Wyoming.

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