

-State Species Abstract-
-Wyoming Natural Diversity Database-

TRIFOLIUM BARNEBYI
BARNEBY'S CLOVER

Family: Fabaceae

Status:

US Fish & Wildlife Service: None (Former Category 2 candidate for listing under the Endangered Species Act).

Agency Status: WY BLM Sensitive.

Heritage Rank:

Global: G1G2 State: S1S2

Range Context: Local endemic

Wyoming Contribution Rank: Very high

Description: Barneby's clover is a mat-forming perennial herb growing up to 5 cm high. The leaves are divided into 3 oblanceolate, toothed leaflets with 12-18 pairs of closely spaced veins. Leaflets are glabrous or occasionally pubescent along the midvein. The flowers are whitish, pea-like, and arranged in a pubescent, head-like inflorescence that is not subtended by an involucre (Isely 1980; Dorn and Lichvar 1981; Fertig et al. 1994).

Synonyms: *Trifolium haydenii* var. *barnebyi*.

Similar Species: *Trifolium haydenii* is an alpine or upper montane species with glabrous leaflets and sepals. *T. gymnocarpon* has pubescent, leathery leaflets with 5-10 widely spaced veins and is not mat-forming. *T. andinum* has flower heads subtended by stipules that form a false involucre.

Flowering/Fruiting Period: May-July.

Distribution: Local endemic restricted to the southeastern foothills of the Wind River Range and southern Beaver Rim area in Fremont County, Wyoming.



Above: *Trifolium barnebyi* by Isobel Nichols (from Fertig et al. 1994).

Below: *T. barnebyi* by Charmaine Delmatier (from Fertig et al. 1994).

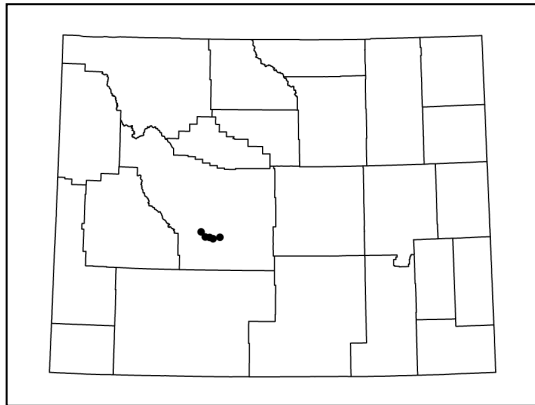


Habitat: Occurs in ledges, crevices, and seams; mainly on reddish-cream Nugget Sandstone, secondarily on Frontier Sandstone, at 5500-6780 feet.

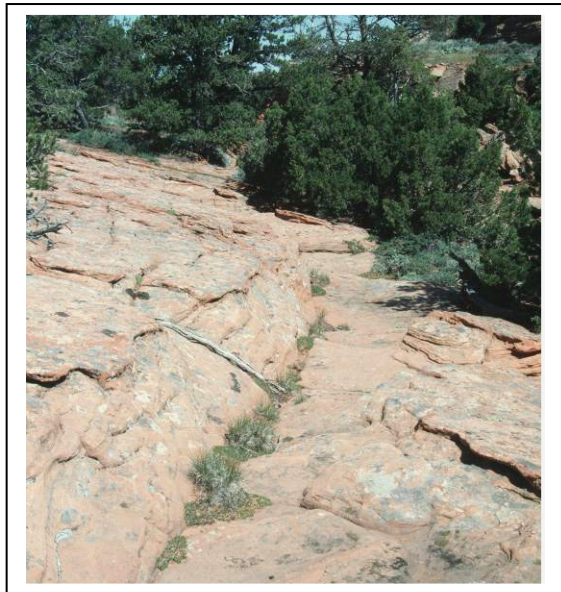
Occurrences in Wyoming: Known from 5 extant occurrences, including discoveries by Dr. Richard Scott in 1999. The two large occurrences in the Red Canyon area could possibly be treated as one.

Abundance: Marriott (1986) estimated the Red Canyon populations as consisting of ca. 11,000 plants in 1986, with most occurring on the summit rim of Red Canyon. Detailed

mapping at regular intervals was completed by Scott and Sako (1999) in all populations.



Wyoming distribution of *Trifolium barnebyi*.



Above: *Trifolium barnebyi* habitat on ledges and cracks in Nugget Sandstone outcrops. Photo by Hollis Marriott.

Trends: Initial observations since 1986 suggest that the population is stable, and that the species is long-lived. Dieback but not mortality was noted during drought-condition surveys in 2006.

Protection status: One large population is protected in BLM Red Canyon ACEC and the adjacent TNC's Red Canyon Ranch preserve.

Threats: Threats are very low due to the plant's largely inaccessible habitat. Livestock grazing is not considered to be a threat due to inaccessibility and the plant's low stature. Herbivory by rodents, rabbits, and insects is likely, but is not considered threatening. The species might be displaced in advanced succession, or die back in drought. Noxious weed treatment in adjoining habitats and colonization by cheatgrass are low, indirect threats. Small occurrences may have low viability.

Managed Areas: Known occurrences are on lands managed by the BLM Lander Field Office, The Nature Conservancy's Red Canyon Ranch preserve, and state lands managed for multiple use.

References:

Dorn, R.D. and R.W. Lichvar. 1981. Specific status for *Trifolium haydenii* var. *barnebyi* (Fabaceae). Madrono 28: 188-190.

Fertig, W., C. Refsdal, and J. Whipple. 1994. Wyoming Rare Plant Field Guide. Wyoming Rare Plant Technical Committee, Cheyenne Wyoming.

Fertig, W. 1995. Plants of The Nature Conservancy's Red Canyon Ranch. Unpublished report prepared for the Wyoming Nature Conservancy by the Wyoming Natural Diversity Database, Laramie, Wyoming.

Fertig, W. and R. Thurston. 2003. Modeling the potential distribution of BLM Sensitive and USFWS Threatened and Endangered plant species in Wyoming. Unpublished report prepared for the Bureau of Land Management Wyoming State Office by Wyoming Natural Diversity Database, University of Wyoming, Laramie, WY.

Isely, D. 1980. New combinations and one new variety in *Trifolium* (Leguminosae). *Brittonia* 32 (1): 55-57.

Isely, D. 1998. Native and Naturalized Leguminosae (Fabaceae) of the United States (exclusive of Alaska and Hawaii). Monte L. Bean Life Science Museum, Brigham Young Univ., Provo, UT.

Marriott, H.J. 1986. A report on the status of *Trifolium barnebyi*, a Candidate Threatened species. Prepared for the US Fish and Wildlife Service by the Wyoming Natural Diversity Database, Laramie, WY.

Massatti, R.T. 2007. A floristic inventory of the East Slope of the Wind River Mountain Range and vicinity, Wyoming. Masters Thesis. University of Wyoming, Laramie, WY.

Scott, R.W. and K. Sato. 1998. Plant species mapping in the Red Canyon area, Fremont County, Wyoming. Report prepared by Dept. of Biology, Central Wyoming College, Riverton, WY.

Author: Walter Fertig

Update Author: Bonnie Heidel

Updated: 09-03-02