

SHIWWITS MILKVETCH

Astragalus ampullarioides (S.L.
Welsh) S.L. Welsh
Plant Symbol = ASAM14

Contributed by: USDA NRCS Idaho and Utah Plant Materials Program



Shivwits milkvetch (*Astragalus ampullarioides*). USDI Fish and Wildlife Service

Alternate Names

Astragalus eremicus

A. eremicus var. *ampullarioides*

Uses

Shivwits milkvetch is highly palatable to domestic livestock (USDI-FWS, 2006a). The plants have also been observed being grazed by deer, often consuming the entire inflorescence (Welsh, 2003). There are no known human uses of the species.

Status

Shivwits milkvetch was listed as endangered in 2001 due to its rarity and declining populations (USDI-FWS, 2001), and in 2006, the USDI Fish and Wildlife Service designated approximately 2,151 acres as critical habitat (USDI-FWS, 2006b).

Consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Legume family (Fabaceae). Shivwits milkvetch is a perennial forb growing 20 to 65 cm (8 to 26 in) tall from a branching subterranean root crown. The stems are spreading to erect, bearing pinnately compound leaves, 5 to 22 cm (2 to 9 in) long with 13 to 21 leaflets. The leaflets are 4 to 24 mm (0.16 to 1.0 in) long, and 3 to 15 mm (0.12 to 0.59 in) wide. The inflorescence is a raceme with 20 to 45 cream yellow colored flowers. The flowers are 14 to 18 mm (0.55 to 0.71 in) long. The fruit is an elliptical, inflated pod, 12 to 18 mm (0.47 to 0.71 in) long, and 8 to 10 mm (0.31 to 0.39 in) thick (Welsh et al., 2003).

Distribution:

There are six known populations of Shivwits milkvetch distributed across a limited range. All known populations occur within Washington County, Utah, ranging from Pahcoon Spring Wash, approximately 18 km (11 mi) northwest of St. George to Rockeville, Utah, approximately 64 km (40 mi) to the east of the Pahcoon Spring Wash population (USDI-FWS, 2006a).

For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

Habitat:

Shivwits milkvetch grows in the Mojave Desert in creosote (*Larrea tridentata*) and Utah juniper (*Juniperus osteosperma*) plant communities with other warm desert shrubs.

Adaptation

Shivwits milkvetch is restricted to isolated pockets of gypsiferous soils of the Chinle formation from 900 to 1350 m (3,000 to 4,360 ft) in elevation in an area receiving an average of 16.5 cm (6.5 in) of annual precipitation (WRCC, 2011).

Management

The major threats to Shivwits milkvetch involve habitat loss as a result of human disturbance. Urban and commercial development surrounding the St. George area, including the creation of roads, power transmission lines, and water pipelines, have significantly impacted milkvetch habitat. Off-road vehicle (ORV) use and cattle grazing and trampling continue to threaten Shivwits milkvetch. The clay soils creating Shivwits milkvetch habitat lack stability and are easily disturbed. Fencing of USDI-

BLM managed populations will reduce ORV and cattle impacts. A further threat comes from the increase in fire frequency due to invasive non-native grasses such as cheatgrass (*Bromus tectorum*) and red brome (*Bromus rubens*) (USDI-FWS, 2006a).

The current recovery plan for Shivwits milkvetch includes fire and fuels management including a 1.2 km (0.75 mi) buffer zone surrounding known populations. Signs and fencing have also been installed at several of the population sites to reduce ORV, cattle, and human trampling (USDI-FWS, 2006a).

Pests and Potential Problems

Herbivory from livestock, deer and rabbits are a concern for this species. Additionally, aphid infestations and infestations of white moths have been documented (USDI-FWS, 2006a). It is unknown what, if any, impacts these pests have on the fecundity of the plants.

Environmental Concerns

There are no known environmental concerns associated with Shivwits milkvetch.

Seed and Plant Production

Flowering occurs from April to May, with each plant bearing approximately 90 flowers. Shivwits milkvetch can be fertilized via pollinators or through self-fertilization; however, studies indicate that self-fertilized fruit bear significantly less seed than insect pollinated flowers (Tepedino, 2005). Several native bees have been observed pollinating Shivwits milkvetch including: *Anthophora coptognatha*, *A. dammersi*, *Eucera quadricornata*, *Bombus morrissoni*, *Osmia clarescens*, *O. marginata*, and *O. titusi*. Pollination by European honeybees (*Apis mellifera*) has also been documented (Tepedino, 2005). No horticultural propagation information is available.

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