

Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*)



THREATENED



Flowers (left), habit (center), and habitat (right) of Lawrence's milkvetch. Photos by ODA staff. If downloading images from this website, please credit the photographer.

Family
Fabaceae

Taxonomic Notes

Introgression between Lawrence's milkvetch and the closely related *Astragalus collinus* var. *collinus*, as well as *A. curvicaupus* var. *subglaber*, is considered probable, evidenced by populations of morphologically intermediate plants. See plant description.

Plant description

Lawrence's milkvetch is a taprooted perennial 20-40 cm high. Stems are clustered, erect or decumbent at the base, and canescent with short crisped pubescence. Leaves are 3-5 cm long, with short petioles. Leaflets number 11-17, are linear to cuneate with obtuse or emarginate apices, 0.6-1.0 cm long, and woolly pubescent. Many-flowered racemes are borne on peduncles much longer than the leaves. The calyx is about 1.0 cm long and woolly pubescent, the pubescence mostly whitish with scattered dark hairs. The corolla is cream or yellowish, about 1.5 cm long. The pods are obliquely ovate-oblong and lunately incurved, the stipe 0.5-1.5 cm long, the body 0.8-1.5 cm long, moderately compressed, and villous (or glabrous in some variant populations*) with prominent sutures, the valves becoming leathery and impressed-reticulate.

*Barneby (1964, 1956) considers the glabrous-fruited form found in southwest Morrow County and adjoining Gilliam County to be a minor variant of Lawrence's milkvetch, as plants of this form occur in extensive, uniform, self-perpetuating populations, and, although these plants bear glabrous pods that average a little longer, the pubescent herbage and impressed pod-valve reticulation are characteristic of *A. collinus*. Barneby suggests these plants may have resulted from past introgression between Lawrence's milkvetch and *A. curvicaupus* var. *subglaber*.

Distinguishing characteristics

Astragalus collinus var. *collinus* and *A. curvicaupus* var. *subglaber* occur within the range of Lawrence's milkvetch and closely resemble the rare taxon, although the three can be distinguished by fruit morphology and pubescence. Lawrence's milkvetch pods

are long-villous (hairs up to 0.5-1 mm long) or sometimes glabrous, lunately incurved, and plumper and shorter on average (0.8-1.5 cm long) than pods of *A. collinus* var. *collinus*, which are shorter-villous (hairs up to 0.25-0.5 mm long), slenderly linear-oblong, straight or slightly incurved, and average 0.7-2.5 cm long. *Astragalus curvicarpus* var. *subglaber* is distinguished by its overall greener appearance, nearly glabrous leaflets, and strongly compressed reflexed pods that are glabrous or sparsely pubescent with prominent raised reticulation when ripe (versus impressed reticulation in both varieties of *A. collinus*), and 1.5-3.5 cm long, with a stipe at least twice as long as the calyx (versus up to about 1.5 times the calyx length in both varieties of *A. collinus*).

When to survey

Surveys for Lawrence's milkvetch should be completed when the species is fruiting and can be distinguished from the closely related *Astragalus collinus* var. *collinus*, typically from late May to August.

Habitat

Lawrence's milkvetch occupies sandy or rocky soils overlying basalt on dry slopes, mostly at elevations ranging from 600-1040 m (2000-3400 ft), although the species has been reported at elevations as low as 122 m (400 ft).

Commonly associated plant species include *Pseudoroegneria spicata*, *Poa secunda*, *Festuca idahoensis*, and *Bromus tectorum*. Lawrence's milkvetch has also been reported to occur with *Balsamorhiza careyana* and *Agoseris grandiflora*.

Range

This species is endemic to the Columbia Plateau of northern Oregon, within the Columbia Basin ecoregion. The majority of known occurrences are small and fragmented, with poor estimated viability.

Oregon counties

Gilliam, Morrow, Sherman, Umatilla

Federal status

Species of Concern

Threats

Primary threats to Lawrence's milkvetch include habitat loss due to agricultural development, grazing, road maintenance activities, competition from exotic weeds, and seed predation by insects. Breeding experiments indicate that Lawrence's milkvetch is incapable of autonomous self-fertilization and is dependent on pollinators to produce seed, making the species vulnerable to anthropogenic disturbances that impact pollinator populations.

Did you know?

The type specimen of Lawrence's milkvetch was collected by botanist William E. Lawrence near Heppner, Oregon in 1917. The species was first described as *Homalobus laurentii* by Rydberg in 1924.

References

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