10-12-1998

An undescribed *Astragalus* (Leguminosae) from southern Utah, a new subsection of the genus, and validation of the combination *Sphaeralcea janeae* (Welsh) Welsh

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AN UNDESCRIBED ASTRAGALUS (LEGUMINOSAE) FROM SOUTHERN UTAH, A NEW SUBSECTION OF THE GENUS, AND VALIDATION OF THE COMBINATION SPHAERALCEA JANEAE (WELSH) WELSH

Stanley L. Welsh

ABSTRACT.—One new species, Astragalus concordius Welsh, sp. nov., is described from Washington and Iron counties, Utah, and section Argophylli, subsection Concordi Welsh, subsect. nov., is proposed. A complete bibliographic citation is supplied to validate the nomenclatural combination Sphaeralcea janeae (Welsh) Welsh, Memoirs Great Basin Naturalist 9: 423. 1987.

Key words: taxonomy, Astragalus, new species, nomenclature.

While I was preparing keys to the species of Astragalus for the Flora North America project, my attention was drawn again to some peculiar plants from the Pine Valley and Kolob portions of Washington County and adjacent Iron County, Utah. Because of the peculiar leaf pubescence contrasting sharply with that of the pod, the plants will not key to any species known for Utah or Nevada in either of the previous treatments by Barneby (1964, 1989) or Welsh et al. (1987, 1993). The plants superficially resemble A. piutensis Barneby & Mabberley (A. marianus Rydberg) of section Argophylli, subsection Argophylli, and most have been identified as such. The main similarity, apart from habit, involves the long-hairy pods. However, the plants in question are appressed strigose with definitely malpighian or dolabriform pubescence, a feature not known from subsection Argophylli but typical of subsection Missourienses. Only A. amphioxys of subsection Missourienses occurs within the range of the plants in question, and that plant has merely strigose pods. Barneby (1964) then indicates examples of potential species pairs between those with basifixed and those with malpighian pubescence. Possibly this is the situation between A. piutensis and the new proposal. The species is, nevertheless, anomalous in any of the previously proposed subsections of section Argophylli.

Section Argophylli A. Gray
Subsection Concordi Welsh, subsect. nov.

Similis sectione Concordi Welsh, subsectione Argophylli in leguminis pubescenti sed aliter differet et similis sectione Missourienses in pilis dolabriformis sed in leguminis pubescenti differat.

TYPE SPECIES.—Astragalus concordius Welsh, sp. nov.

Subsection Concordi is clearly allied to section Argophylli, subsection Argophylli, with which it shares caudex features, shaggy, long-hairy pods, and general habit, but differs in the malpighian pubescence of the herbage. It shares the feature of herbage pubescence with members of subsection Missourienses, but not the pod pubescence.

This proposed new species has long passed under A. piutensis Barneby & Mabberley. Although placed in a different subsection of Argophylli because of contrasting pubescence types, it appears to be most closely allied to A.
Astragalus piutensis. The long-hairy pods of *A. concordius* are not shared by other species of subsection *Missourienses* but are known in some species in subsection *Newberryani*. In that subsection the most similar species, so far as pod pubescence is concerned, is the strictly acaulescent (not subacaulescent) *A. welshii* Barneby, which has only incipiently malpighian hairs on the herbage and differs in other regards. Welshes' milkvetch, an endemic of south central Utah (mainly on igneous gravels), is disjunct by many kilometers from the present proposal, with the nearest approach in the Black Mountain vicinity in northeastern Iron County. Relationship of subsection *Concordi* to subsection *Newberryani* appears to be tenuous.

*Astragalus concordius* Welsh, sp. nov.

(Fig. 1)

Similis *Astragalus piutensis* (sectione *Argophylli*, subsectione *Argophylli*) in aspectem

Fig. 1. Photograph of type specimen of *Astragalus concordius* Welsh.
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Perennial, subaculescent, 9–15 cm tall, from a branching caudex. Pubescence malpighian. Stems 0–6 cm long, the internodes mostly concealed by stipules, these 3.5–9 mm long, all distinct. Leaves 3–9 mm long; leaflets 11–17, 3.5–13 mm long, 1.2–5 mm broad, obovate to oblanceolate or elliptic, rounded to apiculate or acute, appressed strigose on both sides. Peduncles 1–10 cm long; racemes 2- to 8-flowered, the flowers ascending at anthesis, the axis 0.5–5 cm long in fruit; bracts 2.5–4.5 mm long; pedicels 1.5–2.5 mm long; bracteoles 0. Calyx 10.5–12 mm long, the tube 8.5–9.5 mm long, cylindrical, strigilose, the teeth 2–3 mm long, subulate. Flowers 21–25 mm long, pink-purple or whitish to lilac-tinted. Pods spreading-ascending, sessile or nearly so, the body 15–40 mm long, 9–13 mm thick, ovoid to lance-acuminate, obcompressed, almost straight to incurved, densely shaggy-hirsute, unilocular. Ovules ca 30.

Type.—USA: Utah: Iron Co.: Flat Top Mt, ca 6 mi NE New Harmony, T37S, R12W, S31, 6200 ft elevation, 24 May 1976, S. Welsh, K. Taylor, and E. Peabody 13160a, holotype BRY (4 isotypes distributed previously as A. mari­anus Rydb.).


Flowering occurs mainly during April and early May; hence most specimens are in fruit. The species occurs with ponderosa pine, manzanita, oak, aspen, mixed mountain brush, pinyon-juniper, and less commonly with Fremont poplar, willow, and ash, or rarely with creosote bush, at (1200) 1340-2600 m, mainly on sandstone or soils derived from sandstone. Anomalous in any of the currently known subsections of Argophylli, A. concordius is most similar vegetatively, except for its malpighian hairs, with A. piutensis, from which it differs also in several less tangible features; i.e., leaflets are commonly rounded to apiculate, not obtuse to emarginate or acuminate; calyx is merely strigulose, not pilosulous; and at least some pods are much longer.

Distribution of the species (Fig. 2) centers in the Harmony Mountains, Iron County, Utah, and Pine Valley Mountains and Kolob Plateau regions of Washington County. The area occupied by most known collections is an oval approximately 40 km long and 20 km wide,
trending along a northwest–southeast axis. Only 2 collections are known to be remote from the main body of the species, one along the Santa Clara River, ca 10 km west of the town by that name, and the other from the Bull Valley Mountains southwest of Enterprise Reservoir. The Piute milkvetch is mainly a plant of the southeastern Great Basin with only a slight overlap of distribution in the Pine Valley Mountains.

Of the numerous specimens initially considered to be *A. piutensis*, only one is from the Pine Valley Mountains; the remainder are from other Utah and Nevada localities. Thus, the 2 species are evidently disjunct, though contiguous, as are other closely related species elsewhere in the genus.

A matter unrelated to the new species of *Astragalus* was called to my attention by Dr. K.N. Gandhi, Gray Herbarium card index bibliographer, concerning the lack of proper format in what turned out to be an incomplete citation (a lapsus calamus) of *Sphaeralcea janeae* (Welsh) Welsh, published without citation of bibliographic reference of the basionym. The full citation should read, “*Sphaeralcea janeae* (Welsh) Welsh, Memoirs, Great Basin Naturalist 9: 423. 1987. [basionym: *Sphaeralcea leptophylla* var. *janeae* Welsh, Great Basin Naturalist 40: 27. 1950].” This information merely validates the earlier, intentional combination.

**LITERATURE CITED**


Received 21 November 1997
Accepted 17 February 1998