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Astragalus argentophyllus (Fabaceae), a new species from south Anatolia, Turkey

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Astragalus argentophyllus Taeb & Uzunh. (Fabaceae) is described and illustrated as a new species from south Anatolia, Turkey. It is placed in *Astragalus* sect. *Malacothrix*, and is similar to *A. pseudotauricola*, but differs by several characters in the leaves, flowers and legumes.

Astragalus with about 445 species is the largest genus of flowering plants in Turkey. The rate of endemism of this genus in Turkey is approximately 50% (224 species; *see* Chamberlain & Matthews 1970, Davis *et al*. 1988, Aytaç 2000).

Astragalus sect. *Malacothrix* is characterized by herbaceous scapose and subcaulescent habit, an indumentum of basifixed white and black hairs, and at the base a slightly gibbose tubular calyx that gets ruptured by maturing legumes (Bunge 1868–1869, Chamberlain & Matthews 1970, Podlech *et al*. 2010). This section has been classified within subgen. *Hypoglottis* (Bunge 1868–1869), which phylogenetic studies have shown not to be monophyletic (Wojciechowski *et al*. 1999, Kazempour Osaloo *et al*. 2003).

The phylogenetic status of sect. *Malacothrix* has been evaluated in a molecular study using nrDNA ITS (Kazempour Osaloo *et al*. 2003). These results and those of Kazempour Osaloo *et al*. (2005), with expanded sampling, showed that the section is not monophyletic as currently circumscribed. Some of the species attributed to sect. *Malacothrix* are intermixed in three distinct subclades, while the rest either are unresolved branches or allied with the representatives of other sections within clade F. In that clade *A. macrourus* and *A. podocarpus* (both in *Malacothrix*; Maassoumi 1993), which have an indumentum of basifixed hairs mixed with extremely asymmetrical medifixed hairs, are nested in a polytomy comprising sects. *Onobrychoidei*, *Ornithopodium*, *HoIoleuce*, and *Asciocalyx* with medifixed hairs (Kazempour Osaloo *et al*. 2005). Oskoueiyan *et al*. (2005), with cladistic analyses of morphological characters of *Malacothrix* and its allied sections, came to the same conclusion. Obviously, the taxonomy and systematics requires further work to resolve the numerous remaining questions.

The specimens of the species described here were collected from Kahramanmaraş province and compared with specimens in GAZI, ANK, HUB and MSB.

Astragalus argentophyllus Taeb & Uzunh. *sp. nova* (Fig. 1)

TYPE*:* Turkey. B5 Kahramanmaraş: Çağlayancerit–Çatalağaç,

Fig. 1. *Astragalus argentophyllus* (from the holotype). — **A**: Habit. — **B**: Calyx. — **C**: Standard. — **D**: Wing. — **E**: Keel. — **F**: Stamens. — **G**: Pistil. — **H**: Legume.

12 km E of Çağlayancerit, 1510 m, gravelly mountain slopes near the main road, 30 May 2011 *F. Taeb* 1022 & *M.E. Uzunhisarcıklı* (holotype GAZI; isotypes MSB, TUH). — Paratypes: Turkey. B5 Kahramanmaraş: between Çatatağac and Cağliancerit, 19 May 2005 *Baybourt MSB*-147651 (MSB). Gömbe, 10 km to Uçarsu, 1257 m, 18 May 2011 *F. Taeb* 1015 & *M.E. Uzunhisarcıklı* (GAZI), ca. 35 km SW Elmalı, pinewood, 1300 m, May 1997, *Victoor-van Hoe* 1705 (MSB).

Perennial, acaulescent to caulescent herbs, ca. 30 cm tall, densely branched at base. Stems, when present, up to 10 cm, densely covered with appressed short hairs up to 1 mm long. Stipules whitish to greenish, 9–15 mm long, subulate-lanceolate, adnate to petiole for ca. 5 mm, vaginate-connate behind stem up to 2 mm, sparsely to densely covered with appressed white or sometimes also black hairs, toward tip mixed in and ciliate at the margins. Leaves 6–16 cm long; petiole 2–5 cm long; rachis densely covered with double indumentum of spreading short hairs 0.3–0.5 mm and subspreading long hairs up to 1.5 mm long. Leaflets in 8–13 pairs, elliptic to oblong, obtuse, 8–18 × 2–6 mm, densely covered with appressed white hairs up to 1.5 mm long on

Table 1. Morphological comparison of *Astragalus argentophyllus* and *A. pseudotauricola*.

Character	*A. argentophyllus*	*A. pseudotauricola*
Stipule indumentum	pilose	glabrous
Stipule length (mm)	9–15	8–9
Leaf length (cm)	6–16	10–25
Leaflets	8–13 pairs	15–19 pairs
Bract length (mm)	7–10	4–6
Calyx length (mm)	12–17	10–12
Standard length (mm)	18–27	ca. 20
Standard tip	retuse	deeply emarginate to bilobed
Legume size (mm)	10–15 × 5– 6 × 6–7 mm	10 × 4 × 3
Legume beak (mm)	5–7	1.0–1.5

both sides. Racemes 20–40-flowered. Peduncles 7–20 cm long, angular-sulcate, densely hairy like rachis but toward the tip with black hairs mixed in. Bracts green, linear-lanceolate, 7–10 mm long, black and white hairy. Pedicels ca. 0.5 mm long, white hairy. Calyx 12–17 mm long, tubular; teeth 5–7 mm, glabrous on inner side. Petals white. Standard 18–27 mm long; blade 5–9 mm wide, rhomboid with a ligulate upper half, retuse. Wings 14–19 mm long; blades narrowly oblong, obtuse, 7–9 × 3 mm; auricle ca. 1.5 mm, claw 7–10 mm. Keel 15–17 mm long; blade elliptic, obtuse, ca. 7 × 3 mm; auricle short, claw 8–10 mm. Ovary sessile, ellipsoid, white hairy; style glabrous. Legumes sessile, ellipsoid, 10–15 mm long, 5–6 mm high and 6–7 mm wide, keeled ventrally, deeply grooved dorsally, with a hooked beak 5–7 mm, bilocular, densely covered with subappressed to spreading white villous hairs 3–5 mm long. Seeds single per each locule. Flowering in May, fruiting in June.

Astragalus argentophyllus is endemic to S Turkey (Kahramanmaraş province) and can be considered to belong in the Irano-Turanian flora element. It has been collected at altitudes between 1300 and 1510 m. It resembles *A. pseudotauricola* (distributed in SW Turkey) but clearly differs in some characters (Table 1).

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