Astragalus guzelsuensis (Fabaceae: Galegeae), a new species from Turkey

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Astragalus guzelsuensis F. Ghahreman.-Nejad, Behçet & Demir sp. nova (Fabaceae), endemic to the eastern Anatolia, Turkey, is described here. It is placed in the sect. Incani due to its medifixed hairs, free stipules, bibracteolate flowers, and imparipinate leaves, and it appears to be most closely related to A. siahcheshmehensis. Astragalus guzelsuensis differs, among other things, in having more leaflets (6–10 not 2–6 pairs), longer stipules (8–13 mm not 3–4 mm), a glabrous calyx (not hairy), a longer standard (29–31 not 25 mm), and a glabrous fruit (not hairy).

Key words: Astragalus, Fabaceae, new species, Sect. Incani, taxonomy

Turkey is one of the centres of diversity of the genus Astragalus (Fabaceae). It is the largest genus in Turkey, with nearly 450 species, of which fewer than half are endemic (Ghahremaninejad & Behcet 2003). Here we introduce a new species of Astragalus sect. Incani from Turkey. Nearly 25 species of section Incani thrive in Turkey, of which more than half are endemic (Davis 1970, Davis et al. 1988, Podlech 1999).

Astragalus sect. Incani, originally established by De Candolle (1825) with 12 species, is now known to contain nearly 150 species. Von Bunge (1868) introduced this section under Proselius. The centre of diversity of this section is the Armeno–Iranian floristic province of the Irano–Turanian region. The species of this section are distributed in the Middle East, south, east, west and central Asia, Caucasus, north Africa and Europe (Ghahremaninejad 2004).

Astragalus guzelsuensis F. Ghahrem.-Nejad, L. Behçet & İ. Demir, sp. nova (Figs. 1–3)

Differt ab A. siahcheshmehensis foliis 6–10-jugis (nec 2–6-jugis), stipulis 8–13 mm longis (nec 3–4 mm), calyce glabro (nec piloso), vexillo 29–31 mm longo (nec 25 mm), petiolo 2.5–9 cm longo (nec 0.5–3 cm), leguminibus glabris (nec pilosis), non maculatis, et 37–40 mm longis nec 20 mm.

Type: Turkey. East Anatolia Region, Van Province, Güzelsu (Hoşap) District, between Zernek Dam and Üçgen Village, rocky slopes, grassy steppe, 2063 m, 12.V.2007 Ibrahim Demir 125 [in flowering state] (holotype VAN; isotypes FAR, GAZI, VANF, W).

Etymology: The specific epithet is derived from the original collecting location, Güzelsu (Hoşap) district, Turkey.

Perennial plants 12 to 17 cm tall, caespitose,
from a woody caudex enclosed in remains of old stipules and petioles, sparsely vested with appressed white and black bifurcate hairs. Stipules membranous, yellow to yellow-purple, 8–13 mm long, 3–4 mm broad at base, ovate to lanceolate, adnate to petiole for 3–4.5 mm, moderately white hairy, or glabrescent. Leaves 5–15 cm long; petiole 2.5–9 cm long, like rachis sparsely white hairy to glabrescent. Leaflets in 6–10 pairs, 5–12 × 3–10 mm, obovate to broadly elliptic, rounded to somewhat retuse at tip, glabrous to only on underside and somewhat on upperside along midvein. Peduncles 2.5–7 cm long, up to 1.5 mm thick, almost terete, shorter than leaves, loosely covered with white short hairs to glabrous. Inflorescence rather compact, 4–12-flowered, ovate-oblong, 3–6 cm long. Bracts ovate-elliptic, membranous, purplish, glabrous, sometimes at tip white ciliate, 2–4 mm long, 0.7–1 mm wide. Bracteoles subulate, membranous, 2–3.5 mm long, 0.7–1 mm wide, glabrous, purple to yellow-green at base of calyx. Pedicel 2.5–3 mm
long, with appressed white or white and black hairs; flowers erect. Calyx cylindric, purplish, 12–14.5 mm long, tubular, slightly gibbous at base, glabrous; calyx teeth subulate-triangular, 1.8–2.1 mm long, 1/7 as long as tube. Corolla violet to sometimes purple, glabrous; standard 29–31 mm long, limb elliptic-oblong, 9–10.5 mm wide, obtuse to somewhat oblong-retuse; wing 24–25 mm long, limb oblong, obtuse, almost as long as claw, 3.2–3.5 mm wide, auricle 1.1–1.3 mm long; keel 19–19.5 mm long, limb ca. 9 mm long, ca. 3 mm wide, auricle 0.7–0.9 mm long, claw 10–10.5 mm long. Stamen tube 18–19 mm long, free portion 5–5.5 mm long, anther ca. 1 mm long. Pistil 19.5–20.5 mm long; ovary 8.5–9.5 mm long, linear-oblong ca. 1 mm wide, subsessile, with an stipe ca. 1–1.5 mm long, glabrous; style ca. 10 mm long, glabrous. Pod sessile, curved, erect, 3.7–4 cm long, 3.5–4 mm broad, bilocular, compressed laterally, with a straight beak 2–2.5 mm long, purple to purple-yellowish, glabrous. Flowering in June, fruiting in June–July.

**Additional specimen examined** (paratype). — **Turkey.** East Anatolia Region, Van Province, Güzelşu (Hoşap) District, between Zernek Dam and Üçgen Village, rocky slopes, grassy steppe, 2063 m, 10.VI.2007 İbrahim Demir 496 (in fruiting state).

**Distribution:** The specimens were collected from East Anatolia region in a grassy steppe on rocky slopes of limestone. The locality is ca. 0.5 km away from N and NE of Zernek dam, 40 km east of Lake Van. The area where the species is distributed is nearly 300 × 15 m. The population consists of almost 150 individual plants (Fig. 4).

**Relationships:** The morphologically nearest relative of *A. guzelsuensis* is *A. siahcheshmehensis* (holotype TARI!), a narrow endemic species of Iran. The latter species thrives in a small area in NW of Iran in West Azarbaijan province, near the borders with Turkey and Azerbaijan (Podlech & Maassoumi 2003). *Astragalus guzelsuensis* differs from *A. siahcheshmehensis* in having the stipules 8–13 mm (vs. 3–4 mm) long, longer leaves (5–15 vs. 1.5–6 cm), a longer petiole (2.5–9 vs. 0.5–3 cm), 6–10 pairs of leaflets (vs. 2–6 pairs), bigger leaflets (5–12 × 3–10 mm vs. 3–7 × 2–6), a glabrous calyx (vs. hairy), a longer standard (29–31 vs. 25 mm), a longer wing (24–25 vs. ca. 20 mm), a longer bract (2–4 vs. 2–2.5 mm), and a longer pod (37–40 vs. ca. 20 mm), glabrous (vs. hairy pod).
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References


Fig. 4. Distribution map of Astragalus guzelsuensis (square) and A. siahcheshmehensis (triangle).