# Astragalus serpentinicola (A. sect. Sisyrophorus, Leguminosae), a new species from SW Turkey

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# *Astragalus serpentinicola (A.* sect. *Sisyrophorus, Leguminosae),* a new species from SW Turkey

**Abstract**

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*Astragalus serpentinicola* from the vicinity of Burdur in SW Anatolia, Turkey, is described as a species new to science, illustrated, and compared to *A. aydosensis* and *A. pelliger*, the only other members of *A.* sect. *Sisyrophorus*.

Since the revision of *Astragalus* L. for the "Flora of Turkey" by Chamberlain & Matthews (1970), detailed floristic research has led to the description of further 31 *Astragalus* species and three subspecies from Turkey (see Davis & al. 1988, Özhatay & al. 1994, Duman & al. 1995), rising the number of known species of this genus in Turkey to c. 400. These additions also include *A. aydosensis* Peşmen & Erik (in Peşmen 1980), a species of *A.* sect. *Sisyrophorus* Bunge, which until then had been considered a monotypic section comprising *A. pelliger* Fenzl. In the present paper now a third species of this endemic section, only known from the vicinity of the town of Burdur, is described as new to science.

***Astragalus serpentinicola*** Duman & Ekim, **sp. nova** (*A.* sect. *Sisyrophorus* Bunge) – Fig. 1.
Holotypus: Turkey, C2, Burdur, Yeşilova, S of Salda lake, clearings in *Pinus nigra* and *Quercus* forest, on serpentine, 1170–1200 m, 11.7.1993, *H. Duman 5078 & F. A. Karavelioğulları* (GAZI; isotypi: ANK, B, ISTE).

Affinis *A. aydosensi* Peşmen & Erik sed foliis (3–)4(–5)-jugis (versus 1–2-jugis), pedunculis absentibus (versus 1–2.5 cm longis), bracteis 5–7 mm (versus 10–11 mm), dentibus calycis 5–7 mm (versus 8–9 mm) et substratum serpentinum (versus calcareum) incolendo differt.

Suffrutescent subcaulescent perennial with prostrate stems 1–5 cm long and covered with the persistent rachises of previous seasons' leaves. Leaves (also the persistent rachises) and stipules with a sericeous-tomentose indumentum of spreading bifurcate hairs; leaves imparipinnate (3–)4(–5)-paired, including the petiole 1–4 cm long; leaflets sessile, obovate to oblanceolate or deltoid, 7–13 × 4–6 mm, acute or obtuse. Stipules free from the petioles, ovate, 5–15 mm long, membranous, reticulately veined, connate to about half their length, margins ciliate. Peduncles absent. Involucral leaves longer than the spike. Spike densely globose, 1.5–3 × 1.5–3 cm,

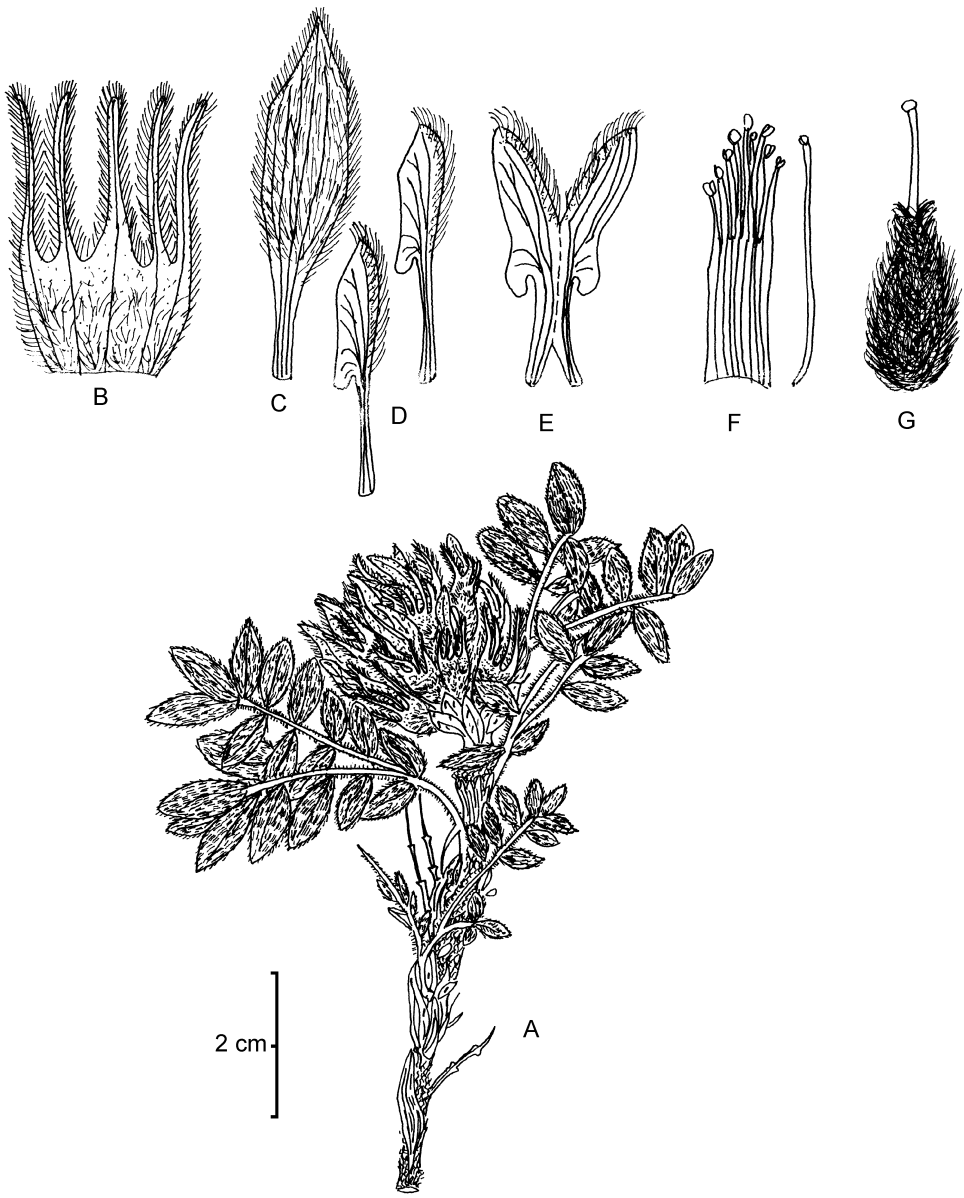


Fig. 1. *Astragalus serpentinicola* Duman & Ekim – A: habit; B: dissected calyx (×3); C-E: corolla (×3), standard (C), wings (D), keel (E); F: androecium (×3); G: ovary (×3). – All after the type.

10–18-flowered. Bracts linear-lanceolate, 5–10 mm, acute to acuminate, membranous, reticulately veined, ventral face pilose of subappressed long white simple hairs. Bracteoles 2, linear, 5–7 mm, densely pilose of long simple hairs. Calyx 11–14 mm, densely villose-lanate and ciliate of simple hairs; teeth 5–7 mm. Corolla pale yellow, brownish when drying; petal limbs densely sericeous, petal claws glabrous; standard oblanceolate-oblong, 14–17 mm, distinctly

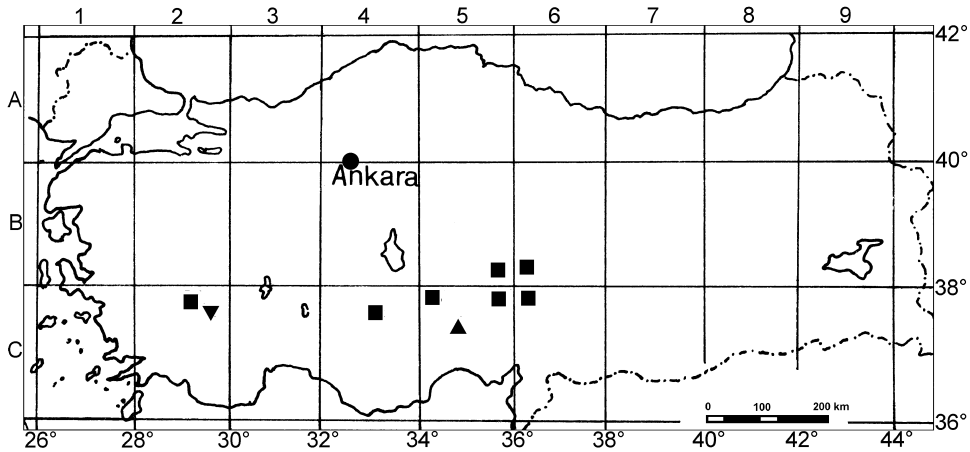


Fig. 2. Distribution of the species of *Astragalus* sect. *Sisyrophorus* – ■: *Astragalus pelliger* Fenzl, ▲: *A. aydosensis* Peşmen & Erik, ▼: A. *serpentinicola* Duman & Ekim.

acute, recurved, with limb 8–11 × 4–5 mm and claw 4–6 mm; wings 11–13 mm, with limb 6–8 mm and claw 4–6 mm; keel 10–12 mm, with limb 5–7 mm and claw c. 5 mm. Ovary and legume densely covered with appressed white sub-bifurcate hairs; ovary c. 8-ovulate, style c. 5 mm; legume included in calyx, ovoid, c. 7 mm; seeds c. 2 mm, slightly reniform, brownish.

Flowering and fruiting: June to August.

*Astragalus serpentinicola* is a Mediterranean element and is, as the entire section, endemic to SW Anatolia (Fig. 2). So far, the species is only known from the type locality and has to be classified, according to the new IUCN threat categories, as vulnerable (VU). The single population is restricted to an area of c. 1000 × 500 m, which is situated in the neighbourhood of a settlement and is also in danger to be damaged by fire.

The differences to the other two members of *A.* sect. *Sisyrophorus* are given in Tab. 1 and in a key to the three species, below.

Additional specimens seen

TURKEY: C2 Burdur, Yeşilova, S of Salda lake, open *Pinus nigra* and *Quercus* forest, on serpentine, 1170–1200 m, 12.7.1993, *H. Duman 5090 & F. A. Karavelioğulları* (GAZI); ibid., 19.7.1994, *F. A. Karavelioğulları 2073* (GAZI).

Tab. 1. Diagnostic features of the three species of *Astragalus* sect. *Sisyrophorus*.

| Features | *A. serpentinicola* | *A. aydosensis* | *A. pelliger* |
|---|---|---|---|
| Leaves | 3–4(–5)-paired | 1–2-paired | 3–6-paired |
| Leaflets [length in mm] | 7–13 × 4–6 | 8–13 × 5–8 | 3–5 × 2–4 |
| Stipules [length in mm] | 5–15 | 8–10 | 4–5 |
| Peduncles [length in cm] | absent | 1–2.5 | 1–4 |
| Bracteols [length in mm] | 5–7 | 10–11 | 6–8 |
| Calyx teeth [length in mm] | 5–7 | 8–9 | 5–6 |
| Habitat | open *Pinus nigra* and *Quercus* forest on serpentine | limestone slope steppe | limestone slope steppe |

**Key to the species of *Astragalus* sect. *Sisyrophorus***

1. Leaves 1–2-paired, calyx teeth 8–9 mm . . . . . *A. aydosensis* Peşmen & Erik
— Leaves 3–6-paired, calyx teeth 5–7 mm . . . . . 2
2. Peduncles absent, leaflets 7–13 × 4–6 mm . . . . . *A. serpentinicola* Duman & Ekim
— Peduncles 1–4 cm, leaflets 3–5 × 2–6 mm . . . . . *A. pelliger* Fenzl

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