

## *Astragalus friederikeanus* Kit Tan & Zeitlinger (Fabaceae), a new species from south Anatolia, Turkey

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*Summary:* A new species from south Anatolia, Turkey, *Astragalus friederikeanus* Kit Tan & Zeitlinger (Fabaceae), is described and illustrated. The diagnostic morphological characters separating it from other members of sect. *Onobrychium* Boiss. are listed.

*Keywords:* *Astragalus* (Sect. *Onobrychium*), Fabaceae, new species, taxonomy, flora of Turkey

*Astragalus* L. is generally considered to be the largest genus in the Angiosperms and it is certainly the largest genus of vascular plants in Turkey. It seems to be no end to the number of species continually discovered in the more remote areas and newly described. There are already more than 400 species representing 62 sections in Turkey, with the majority occurring in the Irano-Turanian region.

The new species was discovered nearly twenty years ago by the second author who was driving through the Sertuval Pass in the vilayet (province) of Konya. After returning to Austria the *Astragalus* specimen was sent to Dr Friederike Sorger (Vienna) for identification. In her opinion it represented a new species. She was studying this specimen before her death and the material was discovered in an open folder at her work table. Later it was sent to Kit Tan for identification together with a specimen of *Onobrychis cornuta*. She found out that the specimen neither could be keyed out in the relevant volume of the Flora of Turkey (CHAMBERLAIN & MATTHEWS 1970) nor did it match any of the Astragali recently described in the two supplement volumes. It was decided to describe it as a new species, dedicated to the memory of Dr Friederike Sorger who passed away in 2001.

*Astragalus friederikeanus* Kit Tan & Zeitlinger, **sp. nova** (Sect. *Onobrychium* Boiss.). Figs. 1 & 2.

Ad sectionem *Onobrychium pertinens* sed a plerisque speciebus huius sectionis racemis paucifloris brevibusque et leguminibus stipitatis differt.

Type: Turkey C4 Konya: Dry south-facing slopes of Sertuval-Gedici, roadside steppe south of Karaman, limestone substrate, ~1080 m, 27 May 1988, J. Zeitlinger 4126 (holotype KL; isotype herb. Kit).

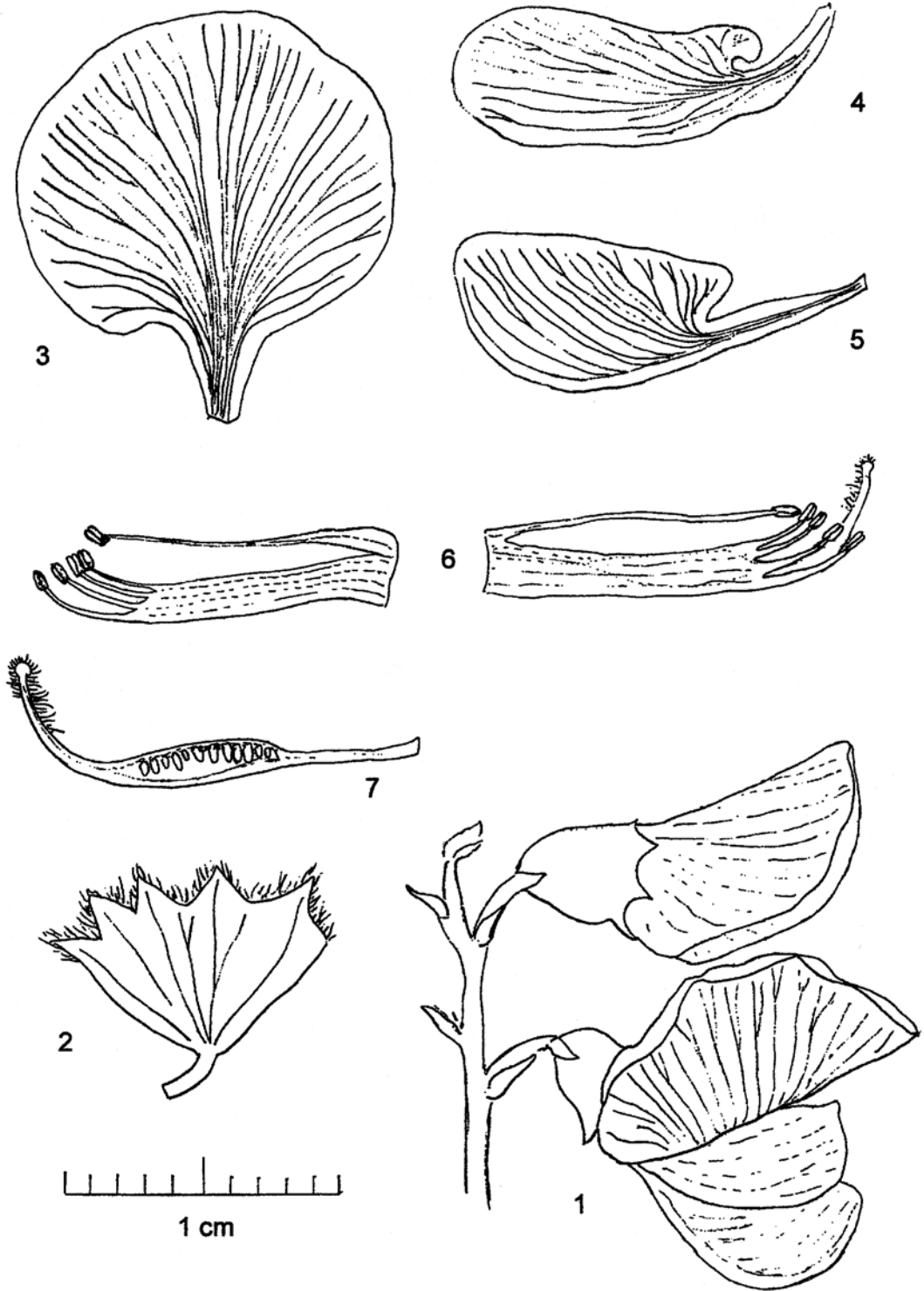
Cauliscent perennial herb 10–20 cm tall with a branched woody caudex and sub-adpressed, white bifurcated hairs 0.2–0.4 mm long; black hairs absent. Several stems, spreading to erect-ascending, up to 15 cm long, branching only at the 2–3 mm diam. base, striate-sulcate. Stipules herbaceous, triangular to triangular-lanceolate, conspicuous, 4–7 mm long, adnate to petiole ~2 mm at base, shortly acuminate, sparsely ciliate. Leaves imparipinnate, 3.5–6 cm long including 0.5–1 cm petioles. Leaflets in 4–7 pairs, narrow-elliptic to (narrow-)oblong-obovate, 5–12 × 2–4 mm,



Figure 1: *Astragalus friederikeanus*: holotype, Zeitlinger 4126, KL.

mucronulate; upper surface green, glabrous or with few scattered white hairs; lower surface white bifurcate-sericeous-strigillose. Peduncles 4–6 cm long, arising mostly from axils of upper leaves, with 4–5 flowers in short racemes of 1.5–2.5 cm. Bracts lanceolate, ~2 mm, acute, adpressed-hairy to ciliate. Bracteoles one per flower, minute ~1 mm. Pedicels 3.5–4 mm long, white-hairy. Calyx unequally 5-dentate, campanulate, 5 mm long including 3 upper teeth, narrowly triangular

*Astragalus friederikeanus* sp. nov.



1 Flower 2 Calyx 3 Standard 4 Wing 5 Keel 6 Stamens 7 Ovary; Style

Figure 2: Floral morphology of *Astragalus friederikeanus*.

~1 mm, and 2 lower teeth, broadly triangular, white adpressed-bifurcate-hairy, ciliate at apex, stramineous with dark blotch at base, not inflated in flower. Flowers spreading. Corolla yellowish, drying brown, glabrous; standard stenonychioid with short claw, suborbicular, 14–15 × 13–14 mm; wings 13–14 mm long, equal as or slightly shorter than keel, with 9–10 mm long lamina and 4 mm long claw; keel obtuse, ~14 mm long, with 6 mm claw. Stamens diadelphous, 14 mm long. Ovary 10–14-ovulate, 5–6 mm long with 4 mm stipe, white adpressed-hairy; style ~8 mm long, hairy-tufted at apex and along dorsal side in upper half. Mature legumes unknown but judging from the ovary size, would be at least 3 times as long as broad, exerted from calyx and less than 15 mm in length.

There were several plants in the population occupying an area ~200 square metres. Plants in the immediate vicinity include *Paracaryum* sp., *Veronica multifidum*, *Onosma isaurica*, and *Onosma* cf. *briquetii*. In contrast to several of the recently described Astragali, our new species was not from a geographically remote area but in easily accessible steppe along the road.

*Astragalus friederikeanus* seems to be a rather distinctive species with no close relatives. It is endemic to the area and only known from the type-gathering. Because of its clearly bifurcate-hairy leaflets it can be placed into Sect. *Onobrychium*. However, finding some affinities proved to be more difficult. Following the admittedly artificial key in the Flora of Turkey (CHAMBERLAIN & MATTHEWS 1970), the short raceme with only few large, pedicellate, bracteolate flowers; the stipitate legume; the stipules shortly adnate to petiole at base and the absence of black simple hairs on the calyx: these are all features which do not quite fit the section and it is this combination of characters which distinguishes it from the other members. Legumes are needed before a final verdict regarding the affinities can be provided.

## Acknowledgments

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## References

CHAMBERLAIN D. F. & MATTHEWS V. A. (1970): *Astragalus* L. – In: DAVIS P. H. [ed.]: Flora of Turkey and the East Aegean Islands Vol. 3: 49–254. – Edinburgh: Edinburgh Univ. Press.

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