A new species of Astragalus L. sect. Acidodes Bunge (Fabaceae) from Iran

by

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Abstract:

Astragalus titziae is described newly. The position of the species in sect. Acidodes is discussed and it is compared with its next related species.

Astragalus titziae Ghahreman et ZARRE, sp. nov. - Holotypus: Tehran: 20' SE Firuzkuh, 9000', 1.7.1962, Furse 3009 (K!; Iso: Hb. PODLECH!, TUH!, W!).

differt ab A. leiophyllo Freyn et Bornm. calyce 12-19 mm longis (nec 8-12 mm) pilis ejus mere albis (nec albi-nigris), foliolis non mucronulatis, bracteis longioribus, 8-13 mm longis (nec c. 7 mm longis).

Fruticulosus, caespitosus, spinosus, c. 20 cm altus, pilis basifixis albis 0,1-1,5 mm, in calycibus ad 4 mm longis vestitus, caulibus breviter ramosis stipulis obtectis. Stipulæ membranaceæ, e basi semiamplexicaule lanceolariter acuminatae, margine ciliatae, liberae, 5-11 mm longae. Folia 0,8-6,5 cm longa, petiolo 0,2-3 cm longo; rhachides sparse appresse pilosæ; foliola 4-6,5 juga, oblonga, complicate, 3,5 x 1-10 x 3 mm, apice obtusa, obsolete apiculata, utrinque sparse adpresæ pilosa vel glabra. Racemi subsessiles, multifloræ, floriferi 1,5-2,5 cm longi et lati. Bractæae latiore ellipticae, 8-13 mm longæ et 4-8 mm latae, glabrae, ciliatae. Calyx 12-15 mm longus, floriferi tubulosus, mox in crescences, patule villosus, dentibus filiformibus, 7-9 mm longis. Corolla flava. Vexillum 16-19 mm longum, alam superantes; lamina 8-10 mm longa et c. 6 mm lata, oblongo elliptica, apice subrotundata, basi in unguem angustata. Alæ 15-17 mm longæ, carinam superantes; lamina 7-8 mm longa et c. 3 mm lata, obovatae. Carinae c. 14 mm longae; lamina oblongo triangulæ. Ovaria dense adpressæ pilosa. Legumina immatura.

Plants dwarf cushion-forming shrublets, about 30 cm in diameter, 15-25 cm tall, very densely branched from the base. Hairs purely white, or just at the old stipules with some black ones, 0,1-1 mm long, at the calyx up to 3,5 mm long, mostly straight, thin, sharply ending. Stem 1-15 cm long, prostrate to ascending, at the base c. 0,8 mm thick, at first year 1-3 mm in diameter, with a growth of 1-7 cm per year, under stipules densely tomentose; old stem grey to dark brown or black, soon glabrescent. Stipules membranous, toward the margins hyaline, yellowish white, 5-11 mm long,
with 1-3 parallel nerves, which are densely branched throughout the surface, lanceolate to oblong, acuminate, at a length of 3-5 mm adnate to the petiole, otherwise basal or up to 1 mm connate, sparsely furnished with long adpressed hairs, glabrescent, ciliate. Leaves 0.8-6.5 cm long; rachises very dense, rigid, ± thin, sparsely covered with long and short adpressed to semierecet hairs, soon glabrescent; petiole (1/4-) 1/3 (-1/2) the rhachis; end thorn 1-2 times as long as the most terminal leaflets pair; leaflets light green, 4-6 (-7) pairs, 3.5-10 mm long and 1-3 mm broad, narrowly oblong, strongly complicate, obtuse, often very tiny mucronulate, both sides sparsely furnished with adpressed to semierecet hairs to wholly glabrous. Inflorescence simple (in younger plants seem to be compound), 1-4 per shoot, borne at the base of current year shoots, dense, globose, 1.5-2.5 mm in diameter, composed of 5-12 ± sessile flowers; peduncle 1-6 mm long, thick, densely villose. Bracts membranaceous, yellow, 8-13 mm long and 5-8 mm broad, elliptic to broadly elliptic, rounded at the tip, shortly appiculate, glabrous, ciliate. Bracteoles absent. Calyx thinly membranaceous, yellowish green to whitish, at the teeth straw-coloured, tubular, 12-15 mm long and c. 3 mm broad (fructifing calyx unknown), with 12-17 parallel thin nerves, densely to sparse villose; teeth 7-9 mm long, from a short trianulate base filiform, 1.2-1.5 times as long as the tube. Corolla creamy, limbs toward the margins pink, the claws of wings and the keel c. 2 mm at the base adnate to the staminal tube. Standard 16-19 mm long; limb 8-10 mm long and 6-6.5 mm broad, elliptic, gradually narrowing to the broadly cuneate claw, rounded at the apex, very tiny mucronulate. Wings 15-17 mm long, shorter as the standard; limbs 7-8 mm long and 2.5-3 mm broad, obovate, obtuse, often tiny mucronulate; auricle 0.4-1 mm long; claw 8.5-9.5 mm long. Keel c. 14 mm long, shorter as the wings; limb 5.5-6 mm long and 2.5-4 mm deep, oblong-triangulate, with almost rectangular lower and straight upper edge, very tiny mucronulate; auricle obvious; claw 7.5-8 mm long. Staminial tube 13-14 mm long, the free part 3.5-4 mm long. Ovary 13-16 mm long; style 10-11 mm long, up to lower 1/2 hairy. Fruits immature, possibly dorsi-ventrally compressed.

Geographic distribution: Iran: endemic to central Elburz (around Firuzkuh).

Flowering- and fruiting-time: V-VII (-?). Occurrence: dry stony slopes; 1900-2800 m.

Specimens seen:


Note:

*A. tizia* is closely related to *A. leiophyllus* Freyn & Bornm, which is a common species on west of the Zagros range (especially Kordestan). *A. leiophyllus* has a smaller calyx covered with white and black hairs (although black hairs are a few in subsp. *leiophyllus*). Most of the species of the sect. *Acidodes* have mucronate leaflets in contrast to *A. tizia*, whose leaflets are not mucronate. *A. carduchorum* is the next closely related species with only white hairy calyx. However the latter possesses inflorescences congested of 1-3-flowered axillary clusters which are sometimes forming apparently a compound ones, in contrast to *A. tizia* with more than five flowers in each inflorescence. The large bracts of *A. tizia* are unique in the section. The form of bracts reminds of sect. *Hymenostegis*, whose species have auriculate-hastate standards.
The new species is named in honor of Mrs. S. TiETZ who published a revision of a difficult group of the thorny *Astragali* in 1988.

![Dissection of a flower (Furse 3009: W)](image)

**References**


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