Poa akmanii (Poaceae), a new species from Turkey

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Abstract

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The discovery of a new grass species in the Western Toros range in SW Anatolia is reported. *Poa akmanii*, belonging to the *Poa bulbosa* complex, is described as a species new to science, illustrated and compared to *Poa timoleonti*s, *Poa pelasgis* and *Poa trichophylla*.

While collecting grasses in Turkey in 1993, the first author discovered a population of *Poa* that appeared to be quite unusual and looked new. It was found growing on mossy cliffs in a glacial cirque, in the Barladağı (Barla Mountains) W of the Eğirdir Gölü (Eğirdir Lake) in SW Anatolia. After sending specimens for examination to experts on *Poa*, it came to light that another collection of the same species had been made a year earlier in a similar habitat in the Beydağları range, c. 170 km SSW of the Barladağı, and has been tentatively recognized as new.

Further studies revealed that the new species is closely allied to some members of the *Poa bulbosa* L. complex. Of these, *Poa timoleontis* Heldr. ex Boiss. is a common species in the E Mediterranean Region, generally occurring at lower elevations (Edmondson 1985), and likely to be found on the lower slopes of the Barladağı. *Poa pelasgis* H. Scholz is common at low elevations in southern mainland Greece and the Aegean Islands, but is also known from one collection in Turkey, one in Iran, and several in Palestine (Scholz 1985). Both species differ from the new species in several respects (Scholz 1986). *Poa timoleontis* s.l. has much more compact spikelets and dense inflorescences. It usually has two branches per node, the glumes are broadly lanceolate and unequal in length, the rachilla internodes mostly do not exceed 0.3 mm in length, and the spikelets have more flowers (4–10). It has distinctly bulbous vegetative shoots, in which the inner basal sheaths are short, thick, and hard with accumulations of hemicellulose, the typical condition for species of the *Poa bulbosa* complex. *Poa pelasgis* is more robust, has shorter ligules, smaller spikelets, and more acute lemma hair apices than the new species. However, like the new species its vegetative shoots have rather elongated sheaths and weakly bulbous bases.

Another related species is *Poa vvedenskyi* Drobov from the alpine region of the "Tschulbair" mountains in the W Pamiralaj range in Central Asia (Drobov 1941), and also reported from Afghanistan (Cvelev 1976). According to the original description it has very short ligules and more ample panicles. We have not seen any material.

The new *Poa* was also compared with a species endemic to Greece that has a similar aspect. *Poa trichophylla* Heldr. & Sart. ex Boiss., a very densely pulvinate perennial, has lemmas that

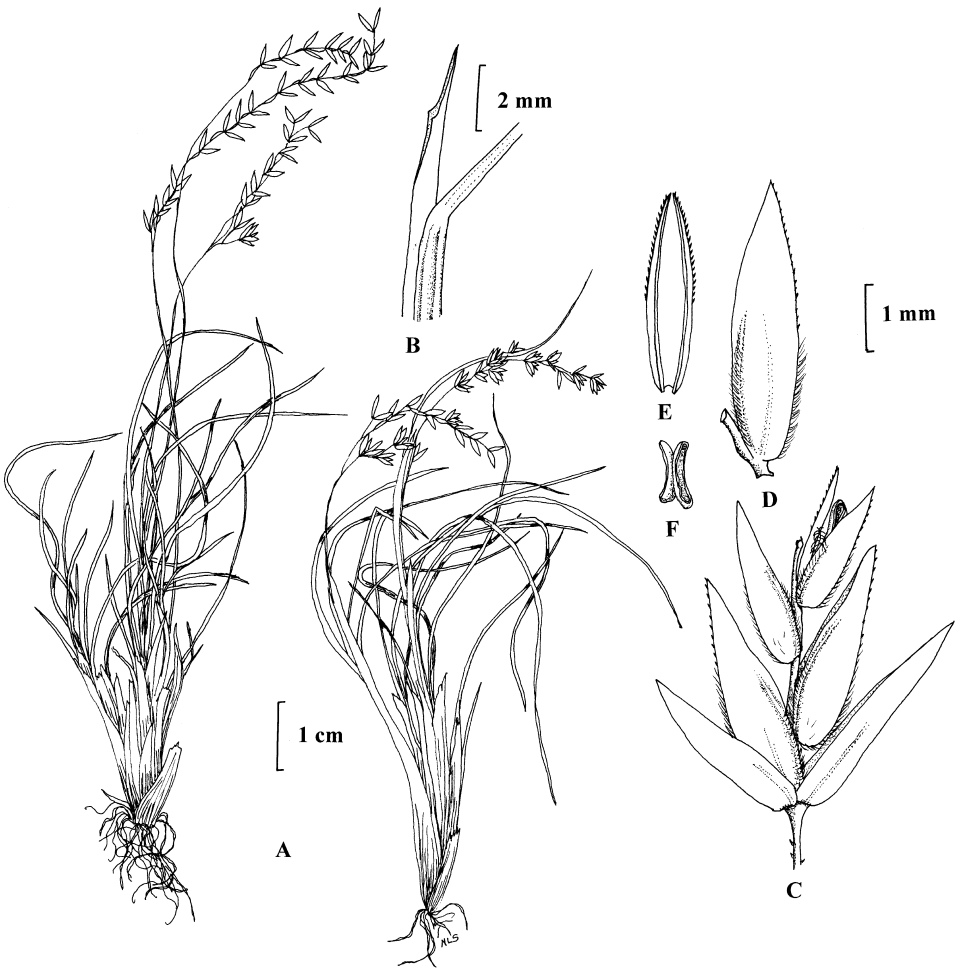

Fig. 1. *Poa akmanii* Soreng, P. Hein & H. Scholz – A: habit, B: ligule, C: spikelet, D: lemma, E: palea, F: anther. – Drawings after the holotype.

are glabrous, leaves with the basal tuft only up to 3 cm in height, and ligules that are clear and not more than 2 mm (on the basal leaves) respectively 3 mm (culm leaves) long. Its sheaths are not at all bulbous at the base (Edmondson 1980). This is the sole representative of *Poa* sect. *Nanopoa* J. R. Edm.

Poa akmanii Soreng, P. Hein & H. Scholz, **sp. nova** – Fig. 1.
Holotypus: Turkey, prov. Isparta [C2 Isparta], Barladağı, Gelincikdağ, ca. 5 km W of Barla (W of Eğirdir Gölü, and c. 35 km NE of Isparta), 38°08′N, 30°45′E, 2287 m, alpine, tall, shady, NE facing limestone cliffs, on mossy ledges protected from marauding goats, above snow field, 21.7.1993, *R. J. Soreng, J. I. Davis, K. Güney & Ü. Bingöl 4140* (US; isotypi: ANK, B, E, ISTE, LIV). – Paratypus: Türkei, C3 Antalya, Bey Dağları, 38°36′N, 30°07′E, 2710 m, Karwand ca. 1 km SW des Kizlar Sivrisi, schattige Felskluft mit engen Spalten, Kalk [headward wall of a glacial cirque c. 1 km SW of the Kizlar Sivrisi peak, shady fissures of N facing limestone cliffs], 30.6.1992, *P. Hein 92–A37–2a* (B).

Differt a *Poa pelasgis* culmis distincte humilioribus, usque ad 14 cm altis et valde infirmioribus; vaginis foliorum superiorum superne margine albo-hyalino cinctis, ligulis longioribus breviter decurrentibus; paniculis sparse spiculatis laxioribus; spiculis 2–4-floribus 3.5–4.5 (nec 2.7–3.2) mm longis maioribus; glumis et lemmatibus 2.0–4.4 ac 2.3–4.3 (necque ca. 2.0 et 1.8–2.5) mm longis, nervis lemmatum dorsalibus medianis submarginalibusque ad 2/3 vel 1/3 longitudinis pilis fere obtusis dense vestitis.

Perfect flowered, perennial, 5–14 cm tall, densely tufted, caespitose; culms included in the basal tuft or exerted, 0–1 nodes visible, naked for 1.5–4 cm, smooth, capillary (0.15–0.25 mm in diameter), not bulbous at the base; vegetative shoots intravaginal, old sheaths persisting, elongate, closely overlapping, the outermost basal sheaths hyaline and somewhat inflated, the innermost sheaths slightly bulbous, somewhat thickened and hard with hemicellulose accumulations; leaves numerous, mostly basal, the basal tuft 5–10 cm in height; blades slender, 0.4–0.5 mm wide when folded, thin, soft, smooth and glabrous, except for the moderately scabrous margins, faintly few-nerved abaxially, folded and slightly inrolled on the margins, those of the basal tuft to 4 cm long, those of the upper portion of the culms 1.0–4.0 cm long; sheaths of the uppermost culm leaves closed 1/4–1/6 of their length; ligules of the basal leaves 1.5–4 mm long, of the culm leaves 3–6 mm long, milky-white, acute or lacerate, broadly decurrent on the sheath margins; prophylls up to 2 cm long; panicles linear to narrowly lanceolate, 1–5 cm long, somewhat lax, sparse, with fewer than 20 spikelets; branches short, 0.3–1.2 cm long, 1 or less often 2 per node, smooth, ascending; spikelets 2–4 flowered, 3.5–4.5 mm long; glumes narrowly lanceolate to lanceolate, smooth, approximately equal, acute, the first 2.4–4.4 mm long, 1–3 nerved, the second 2.0–4.3 mm long, 3-nerved; lemmas distinctly keeled, lanceolate, with narrowly hyaline margin, 2.3–4.3 mm long, villous on the keel (for 2/3 the length) and marginal nerves (for 1/3 the length), the hairs 0.15–0.3 mm long and acutely to obtusely tipped, glabrous or very sparsely pubescent between the nerves in the basal 1/3, the keel and sides sparsely scabrous near the apex, 5-nerved, the lateral nerves very faint; calluses glabrous; rachilla smooth, glabrous, the internodes above the lowest floret 0.5–0.7 mm long; paleas glabrous, scabrous on the keels in the upper 1/2, smooth between them; flowers perfect; anthers 0.9–1.3 mm long; caryopses lanceolate, flattened to slightly sulcate on the adaxial side, straw-coloured, translucent, c. 2 mm long, the hilum oval, 0.2 mm long.

Poa akmanii is named for Yildirim Akman, Plant Geographer and Ecologist at the Science Faculty of Ankara University.

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References

Cvelev, N. N. 1976: Zlaki SSSR [*Poaceae* URSS]. – Leningrad.

Drobov, V. P. 1941: *Gramineae*. – Pp. 144–313 in: Kudrjašev, S. N. (ed.), Flora Uzbekistana **1.** – Taškent.

Edmondson, J. R. 1980: *Poa* L. – Pp. 159–167 in: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M., Webb, D. A. (ed.), Flora europaea **5.** – Cambridge, etc.

— 1985: *Poa* L. – Pp. 470–486 in: Davis, P. H. (ed.), Flora of Turkey and the East Aegean Islands **9.** – Edinburgh.

Scholz, H. 1985: *Poa*-Studien 4. Über *Poa hackelii* Post und *P. pelasgis* sp. nova *(Gramineae)*. – Willdenowia **15:** 91–97.

— 1986: *Poa* studies 5. The genus *Poa (Gramineae)* in Greece: Annotated check-list and key to the species. – Willdenowia **15:** 393–400.

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