A NEW RECORD AND A NEW SPECIES OF THE GENUS POA L. (POACEAE) FROM IRAN

M. Kavousi, M. Assadi & T. Nejadsattari

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Poa damavandica Assadi & Kavousi is described as a new species from Iran based on a specimen has been collected from high altitudes of Damavand Mountain. It belongs to the section Stenopoa subsection Stenopoa. The new species is compared with Poa araratica, P. sterilis, P. stepposa and P. rangkulensis as close affinities. Moreover, Poa glauca is reported as a new record from Iran collected from Mazandaran province.

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Key words. Poa, Poaceae, new species, Iran.

Introduction

In a taxonomic study of the genus Poa L. in Iran, about 300 specimens of non-bulbous group, in Research Institute of Forests and Rangelands Herbarium (TARI) were considered and identified. Moreover, excursions were made to Azerbaijan, Gilan and Tehran provinces to study and collect plant materials. According to Flora Iranica (Bor 1970) 13 species of the genus Poa occur in Iran. In Flora of neighboring countries number of Iranian records varies, for example, Flora of Turkey 11 (Edmondson 1985), Flora of Iraq 6 (Townsend 1980), Flora of the USSR 5 (Rozhovits 1934) and Grasses of the Soviet Union 15 (Tzvelev 1976). In this paper a new species is described from Iran. Also, Poa glauca formerly not known from Iran is reported as a new record for Iran.

Results and discussions

New species

Poa damavandica Assadi & Kavousi, sp. nov.

Planta perennis, dense caespitosa, radicibus brevibus fibrosis. Surculi sterilese numerosi, dense scabris, foliis distichis velati. Caules 25 cm alti, foliorum veteranum vestigiis purpurascensibus ad basim praediti, numerosi, saepe geniculati ascendentes, pro parte magno gliabria sed infra paniculam sparsim scabri, glauci, a basi per duos longitudinis trientes foliorum caulinarum vaginis clausi; nodi e vaginis non exserti. Folia basalia 2.1–3.5 cm longa, 1.1–2 mm lata, ligulum 0.8 mm longam, rotundatum, secus vaginae margins

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breviter decurrentem, glabram ferentia; folia caulina 6.6–7.7 cm longa, 1–1.3 mm lata, vagina tereti; folium summum 4.8–7.2 cm longum, 0.5–0.8 mm latum,
Fig. 1. *Poa damavandica* (× 0.7); spikelets and ligule (× 8); flowers (× 14) and glumes (× 7).

Table 1. Comparison of *Poa damavandica* with *P. araratica* and *P. sterilis*.

<table>
<thead>
<tr>
<th></th>
<th>Rhizome</th>
<th>Leaf apex</th>
<th>Basal, stem and flag leaf (L×W)</th>
<th>Non-flowering shoots</th>
<th>Ligule in uppermost leaf</th>
<th>Uppermost node</th>
<th>Rachilla</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>P. damavandica</em></td>
<td>none</td>
<td>blunt</td>
<td>20.5-35×1.1-2 66-77×1-1.3 48-72×0.5-0.8</td>
<td>+</td>
<td>2.8 mm, elongated with rounded tip</td>
<td>Not evident and under the leaf sheath</td>
<td>smooth</td>
</tr>
<tr>
<td><em>P. sterilis</em></td>
<td>thin</td>
<td>acute</td>
<td>18-67×1-2 19-92×0.8-2 21-93×0.8-2</td>
<td>-</td>
<td>Up to 2 mm, truncate</td>
<td>Usually in the middle ⅓</td>
<td>Papilose to very pilose</td>
</tr>
<tr>
<td><em>P. araratica</em></td>
<td>thick</td>
<td>acute</td>
<td>5-53×0.6-2 31-107×0.8-1.8 26-88×0.5-1.6</td>
<td>-</td>
<td>Up to 2 mm, truncate, acute or obtuse</td>
<td>In basal ⅓</td>
<td>Papilose to pilose</td>
</tr>
</tbody>
</table>

ligulam 2–2.8 mm longam, ad apicem rotundatum elongatam, ferens. Panicula 5–9.1 cm longa, 0.6–1.1 mm lata, anguste oblonga, contracta, nodis distinctis, spiculas 15–55 praebens; rami inferiores 2–3, 1.9–3.9 cm longi; ramus summus singularis, circa 3 mm longus. Spiculae circa 6 mm longae, ovatae vel cuneatae, floribus 4 laxis; gluma inferior circa 3 mm longa, elliptica, margine lato membranaceo, acuta, 3-nervata; gluma superior circa 3.5 mm longa, late ovata, margine lato membranaceo, acuta, 3-nervata; lemma infima 3.2–3.5 mm longa, elliptica, colore flavo purpureo variegata, obtusa, obscure nervata, in carinae dimidio inferiori et in nervorum marginalium parte tertia infima sparsim ciliata, inter nervos inque nervis lateralibus glabra; rachilla glabra, ad basin sparse lanata; palea circa 2.7 mm longa, carinis in tertia parte infima glabras, supra hanc ciliatis, ad apicem scabris. Antherae 1.1 mm longae, flavae, ad apicem purpureosuffusae.

Tehran: South slope of Kuh–e Damavand (XV1), 3700-4350 m, 22.07.2003, M. Assadi & S. M. M. Hamdi 85739 (holotypus TARI).

Densely tufted perennial, with short fibrous roots. Non-flowering shoots numerous, densely scabrid distichously leafy. Stems 25 cm high, with purplish remnants of old leaves at the base, numerous, often geniculately ascending, mainly glabrous but sparsely scabrid below the panicle, glaucescent, for 2/3 of their length from the base enclosed by the leaf-sheaths of the cauline leaves; nodes not exerted from leaf-sheaths. Leaves folded or involute, gradually tapering to a blunt hooded tip, scabrid throughout their length, distinctly ridged; basal leaves 2.1–3.5 cm long, 1.1–2 mm wide, with ligule 0.8 mm long, rounded, shortly deciduous along the sheath margins, glabrous; stem leaves 6.6–7.7 cm long, 1–1.3 mm wide, leaf-sheaths terete; uppermost leaf 4.8–7.2 cm long, 0.5–0.8 mm wide; ligule 2–2.8 mm long, elongated with a rounded tip. Panicle 5–9.1 cm long, 0.6–1.1 mm wide, narrowly oblong, contracted, with distinct nodes, with 15-55 spikelets; lower branches 2–3 in number, 1.9–3.9 cm long; uppermost branch single, c. 3 mm long. Spikelets ca. 6 mm long, ovate or wedge-shape, with 4 uncontracted flowers; lower glume c. 3 mm long, elliptic, with a wide hyaline margin, acute, 3-veined; upper glume ca. 3.5 mm long, broadly ovate, with a wide hyaline margin, acute, 3-veined; lowest lemma 3.2–3.5 mm long, elliptic, variegated with yellow and purple, with a blunt tip, obscurely nerves, sparsely ciliate on the lower half of the keel and lowest third of the marginal nerves, glabrous between the internerves and on the lateral nerves; rachilla glabrous, sparsely woolly at the base. Palea c. 2.7 mm long, with keels glabrous in the lowest third, ciliate above this and scabrous towards the apex. Anthers 1.1 mm long, yellow tinged with purple at the tips.

This species belongs to sect. *Stenopoa* Dum. subsect. *Stenopoa*. It seems that the closest species to the new species is *P. stepposa* (Kryl.) Roshev. The differences between the two species are as follows:

a- The absence of compact vegetative shoots in *P. stepposa* and the presence of very numerous shoots in *P. damavandica*.

b- Nodes are exerted from leaf-sheaths in the former and not exerted in the latter.

c- Stems below the nodes with directly upward hairs in the first one and there is no nodes along the stem in the second one.

d- Stems rather strongly pubescent in the former and they are in the leaf-sheaths in the latter.

e- Stems are almost completely leafless in the upper part in the former and leafy in the latter.

f- All leaves 0.5–1.25 mm wide in the first one and basal leaves 1.1–2 mm wide in the second one.
P. rangkulensis Ovcz. & Czuk. another relative is quite different from P. damavandica by having lemma densely short-pilose in lower part in between the veins.

Among the Iranian species P. sterilis M. B. and P. araratica Trautv. are similar to the new species, therefore they are compared in table 1.

**New record**

**Poa glauca** Vahl.
Mazandaran: south of Ramsar, between Bagh e-dasht and Lapasar, 2900 m, 12.08.1973, Runemark & Maassoumi 21748. - Tehran: Karaj valley, Dizin, 3300 m, 15.08.1974, Wendelbo & Cobham 14030 (TARI).

Tufted perennial, with remnants of old sheath-leaves. Stems about 30 cm high, erect, numerous, smooth, glabrous below the panicle, about 1/2 of their length from the base closed by leaf-sheaths of stem leaves, in upper part leafless, glaucous; nodes not exerted from leaf-sheaths. Leaves flat, gradually tapering to a blunt apex, glabrous, with scabrous main vein at the apex, auriculate; basal leaves 2.5- 3.7 cm long, 1- 1.2 mm wide; ligule 0.4 mm long, truncate with a dentate margin; stem leaves 5.9- 6.5 cm long, 1- 1.5 mm wide; uppermost leaf 3.9-8.6 cm long, 0.9-1.5 mm wide; ligule 2.1 mm long, truncate with a dentate margin. Panicle 3.4-4.9 cm long, 6-14 mm wide, oblong elliptic, somewhat open, contracted, with about 30 spikelets; lower branches 3 in number, 8- 17 mm long; uppermost branch single, 13- 14.5 mm long. Spikelets ca. 4.2 mm long, wedge-shaped, with 2 or 3 contracted-flowers; lower glume ca. 3 mm long, lanceolate, with a wide yellow margin, acute, nearly smooth, 3-veined; upper glume ca. 3.2 mm long, ovate, with a wide yellow margin, acute, nearly smooth, 3-veined. The lowest lemma ca. 3.5 mm long, ovate, with a narrow margin, with a blunt tip, obscurely 5-nerve, on the lower 3/4 of the keel and 1/3 of the marginal nerves ciliate, smooth on the internerves and middle nerves; rachilla long, with 2 or 3 long hairs, drooped on rachilla, with sparse wool on the base. Palea ca. 3.2 mm long; keels glabrous at 1/2 of the lower base, scabrid above the lower base; pilose between two keels; anthers 1.5 mm long, seeds ca. 2.3 mm long, wide ellipsoidal.

According to Tzvelev (1976 & 2000) in Flora of Russica and Edmondson (1980) in Flora Europaea, this taxon is distributed in Caucasus, Western Siberia, Eastern Siberia, Far East; Scandinavia; Atlantic Europe; North America. Caucasus is the nearest locality to Iran.

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**References**