

A new species of *Scorzonera* (Asteraceae) from Khorasan, Iran

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Scorzonera joharchii sp. nov. is described from the Khorasan, east of Birjand, Iran. It is similar to *S. tuberosa* from which it mainly differs in its tomentose indumentum, longer pappus and villous and longer achenes.

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Introduction

During the work in the Herbarium of the Research Institute of Forests and Rangelands (TARI) a new species from Iran was found. This specimen have been compared with many specimens of *Scorzonera* species deposited in the herbaria of Research Institute of Forests and Rangelands (TARI), Mashhad University (Mashhad UH), Tehran University (TUH) and Iran (IRAN) and matched with earlier descriptions (Komarov 1964, Rechinger 1977, Tutin et al. 1976). The study showed that this specimen is representing a species new to science. Since the genus *Scorzonera* was revised by Rechinger 1977 for the Flora of Iran, no new species has been added to the Iranian flora.

Scorzonera joharchii Safavi sp. nov.

Type: Iran. Khorasan, east of Birjand, between Tabase-Masina and Gazik, 1350 m, 14 May, 1989, Sandy soils, Joharchi & Zangooei 17266 (TARI holotype, Mashhad UH isotype).

Herba perennis, tomentosa, tuberosa. Tuber subglobosum, usque, ad 2 cm diam., collo non vel parce

tunicato. Caulis nullis. Scapi furcatis 5-7 cm longi, tenues, quam folia longiores. Folia omnia basalia, 4-6 × 0.2-0.4 cm, non petiolata, lineari-lanceolata, tomentosa. Involucrum floriferum 20 mm, fructiferum 22 mm longum, subcylindricum, oligophyllum; phylla omnia acutissima, linearia, scarioso-marginata. Ligulae violascae. Achaenia 6-7 mm longa, non stipitata, villosa. pappus 15 mm longus, sordide albus, plumosus, apice serrulate scabridus.

Perennial. Tuberosa, rootstocks vertical with a globose tuber 2-5 cm below surface of soil clothed in grey or fox-red wool, ca. 2 cm diameter. Acaulescent, with 4-8 capitula, scape solitary or few, slender, branched at or above the middle, ascending or erect, 5-7 cm long, tomentose with short and long hairs throughout. Leaves, linear to linear-lanceolate, 4-6 × 0.1-0.4 cm. Involucre cylindrical or conical, 20-22 mm long; phyllaries acute tomentose, membranous along margins, outer phyllaries small triangular, 1 mm wide, inner phyllaries lanceolate, 3 mm wide below. Ligules violet, ca. 20 mm long, slightly longer than the involucre, 5-toothed, style branches, filiform ca. 3 mm long, papillose, obtuse, shorter than ligule. Achenes not stipitate ca. 7 mm, cylindrical, villous; pappus hairs dirty white not crispate, ca. 15 mm, plumose in lower half and serrulate-scabrous at top, Flowering: May, fruiting: June. – Fig. 1.

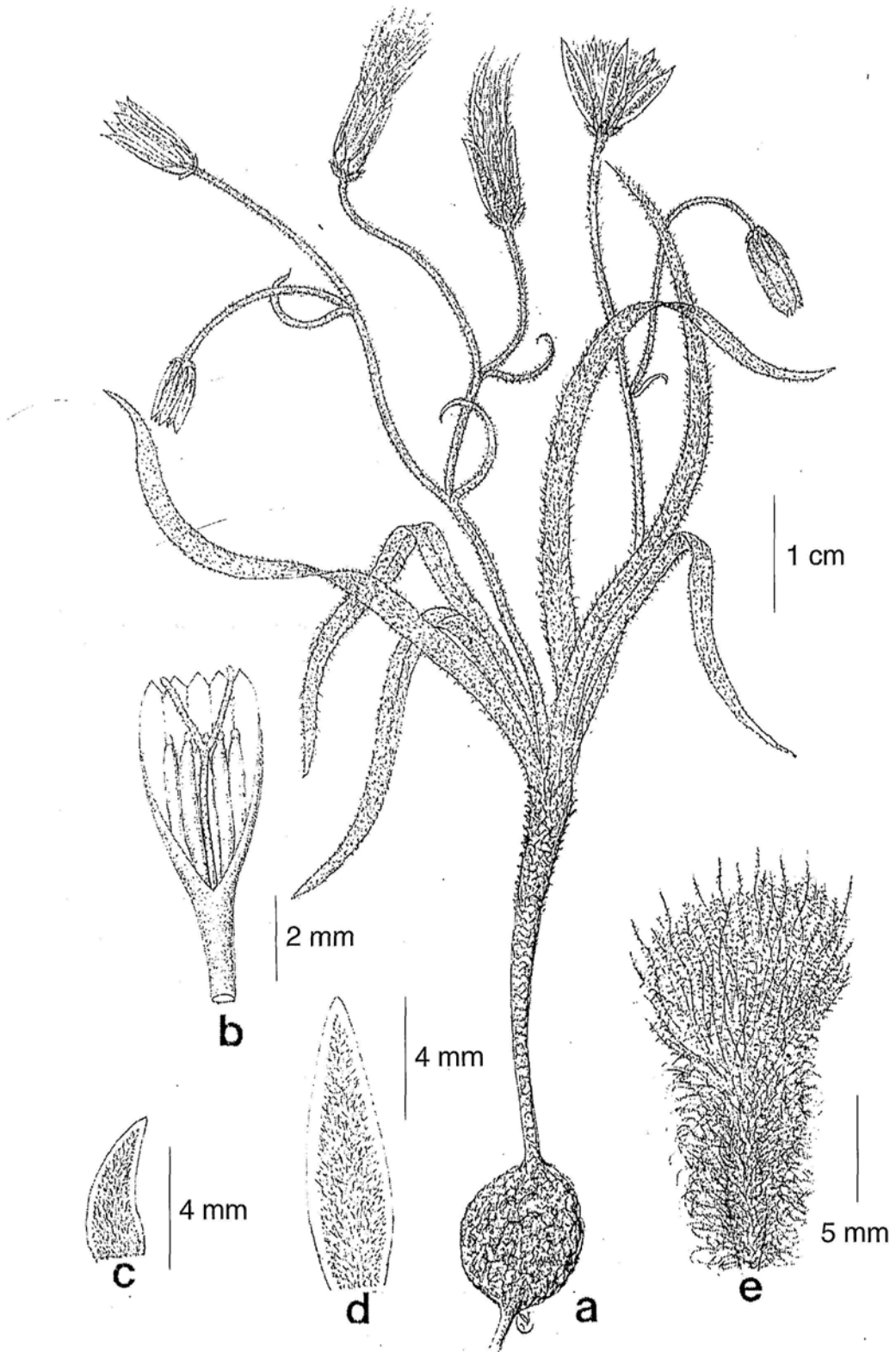


Fig. 1. *Scorzonera joharchii*, a: habit, b: corolla, c: outer phyllary, d: inner phyllary, e: achene.

Habitat: Sandy steppes, 1200-1500 m.

Etymology: The species is named in honour of the Iranian botanist Mohammad Joharchi (Herbarium of Mashhad University) who is one of the collectors of *Scorzonera joharchii*.

Distribution: Endemic, only known from the type in the northeastern part of Iran (south-east of Khorasan province) (Fig. 2).

Ecology: *Scorzonera joharchii* grows on sandy soils in association with *Ammodendron persicum*, *Artemisia santolina*, *Astragalus vanillae*, *Centaurea pulchella*, *Carex physodes*, *Scorzonera tortuosissima*, *Silene arenaria*, *Schumannia (Ferula) karilini*, *Roemeria hybrida* and *Euphorbia connata*.

Discussion: *Scorzonera joharchii* is similar to *S. tuberosa*, which is widespread in Russia (S.W.), Kazakhstan and Central Asia. It differs from *S. tuberosa* in the following aspects; the scape is tomentose, 50-70 mm long (not sparsely tomentose, 15-50 mm); leaves have a tomentose indumentum, 40-60 × 2-4 mm (not sparsely tomentose, 30-80 × 1-5 mm); the outer phyllaries tomentose, 3 mm long (not sparsely tomentose, 2 mm); the inner phyllaries tomentose, 20-22 mm long (not sparsely tomentose, 13-15 mm); ligules violet (not yellow); achenes 7 mm long, villous (not 4 mm sparsely villous); pappus 15 mm long, dirty-white (not 10 mm, reddish-brown). It also differs from *S. tuberosa* in the features below (Table 1).

Acknowledgement: The author wishes to thank E. Moradi the artist of the Research Institute of Forests and Rangelands for preparing the illustration.



Fig. 2. Distribution of *Scorzonera joharchii*.

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Table 1. A comparison of *Scorzonera joharchii* and *S. tuberosa*.

Characters	<i>S. joharchii</i>	<i>S. tuberosa</i>
Height	5-7 cm	3-11 cm
Scape	50-70 mm, tomentose	15-50 mm, sparsely tomentose
Leaves	40-60 × 2-4 mm, tomentose	30-80 × 1-5 mm, sparsely tomentose
Outer phyllaries	3 mm, tomentose	2 mm, sparsely tomentose
Inner phyllaries	20-22 mm, tomentose	13-15 mm, sparsely tomentose
Ligules	violet	yellow
Achenes	7 mm, villous	4 mm, sparsely villous
Pappus	15 mm, dirty-white	10 mm, reddish-brown
Distribution	endemic-Iran (N.E.)	Russia (S.W.), Kazakhstan and Central Asia