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A new species of *Scorzonera* L. (Asteraceae) from south Anatolia, Turkey

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A new species ***Scorzonera gokcheoglui*** O. Ünal & R. S. Göktürk **sp. nov.** from south Anatolia is described and illustrated. Its relationships with *S. argyria* and *S. pisidica* are discussed. A map showing the distribution of the species and other related species is given. © 2003 The Linnean Society of London, *Botanical Journal of the Linnean Society*, 2003, **142**, 465–468.

ADDITIONAL KEYWORDS: Antalya – Compositae – endemism – Lactuceae – taxonomy.

INTRODUCTION

During fieldwork for a project on *Origanum* L. in 2002, material of rare *Scorzonera* L. was collected by the senior author (OÜ) from Alanya district in Antalya Province, Turkey. The specimens were identified using the *Flora of Turkey* (Chamberlain, 1975; Davis, Mill & Kit Tan, 1988; Güner, 2001), *Flora Europaea* (Chater, 1976) and other sources. The material was compared with many specimens of supposedly related species in GAZI, ANK, HUB and AKDU herbaria (herbarium acronyms follow Holmgren, Holmgren & Barnett, 1990, and recent supplements, except AKDU = Herbarium of the Biology Department of Akdeniz University), and it was decided to describe it as a new species, as it differed in several characters.

Since *Scorzonera* was revised by Chamberlain for the *Flora of Turkey* (Chamberlain, 1975), three new species and one variety have been described from Turkey: *Scorzonera longiana* Sümbül (Sümbül, 1991), *Scorzonera pisidica* Hub.-Mor., *Scorzonera sandrasica* Hartvig & Strid and *Scorzonera latifolia* (Fisch. & Mey.) DC. var. *angustifolia* Pripliko apud Lipsch. (Davis *et al*., 1988). With the description here of *Scorzonera gokcheoglui* the number of species in Turkey is now 43.

In total 32 herbarium specimens of the new species were collected from the type locality. The holotype of the new species was deposited in the herbarium of AKDU. Isotypes of the new species were deposited in the herbaria of GAZI, ANK, HUB, ISTE and ISTF.

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DESCRIPTION

SCORZONERA GOKCHEOGLUI O. ÜNAL & R. S. GÖKTÜRK **SP. NOV.** (FIGS 1, 2)

Type: Turkey. C4 Antalya. Alanya district, between Çökele and Gökbel, on calcareous area and clearings in *Pinus nigra* forest, 1425 m, 36°34′47″N, 32°21′80″E, O. Ünal 1453.

Holotype: AKDU.

Isotypes: ANK, HUB and GAZI.

Diagnosis: S. argyriae et *S. pisidicae* affinis sed a *S. argyria* caule decumbente (non erecto), dense lanato-tomentoso (non pannoso), foliis oblanceolatis vel anguste spathulatis (non ovatis), dense lanato-tomentosis (non pannosis); capitulo plerumque 1 (raro 3) in quoque caule (non 2–3 in quoque caule), phyllariis omnibus dense lanato-tomentosis (non pannosis); phyllariis exterioribus 4–7 mm longis (non 15 mm longis); phyllariis interioribus lineari-lanceolatis (non lanceolatis), acuminatis (non acutis); acheniis dense lanato-tomentosis (non glabris); pappo cremeo (non cinereo). A *S. pisidica* caule decumbente (non procum-

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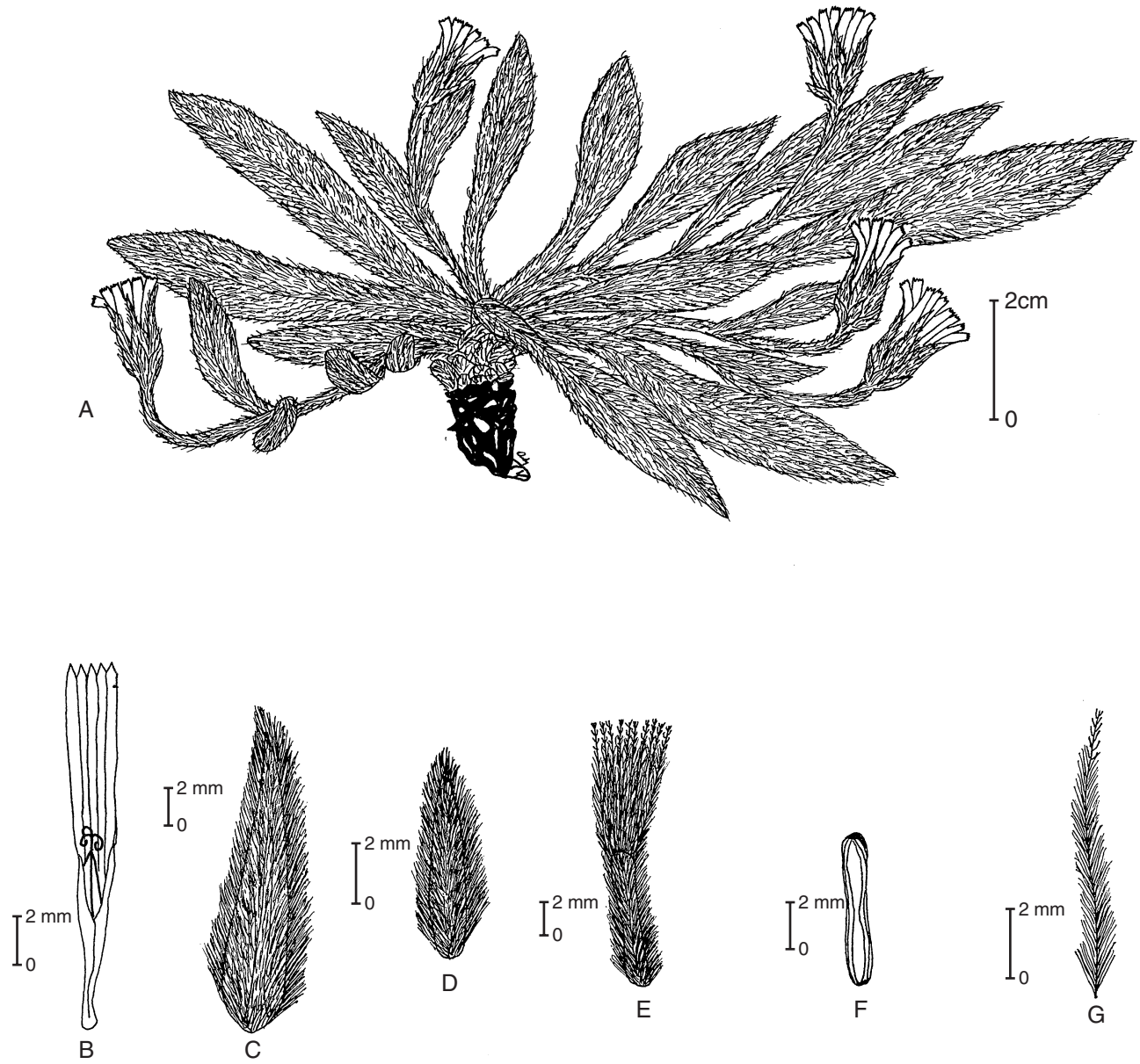


Figure 1. ***Scorzonera gokcheoglui*** O. Ünal & R. S. Göktürk **sp. nov.** (A) Habit of plant. (B) Corolla. (C) Inner phyllary. (D) Outer phyllary. (E) Achene with pappus. (F) Naked achene. (G) Pappus seta.

bente vel suberecto), dense lanato-tomentoso (non adpresse vel subadpresse sericeo-lanato), foliis oblanceolatis vel anguste spathulatis (non lanceolatis vel linearibus), dense lanato-tomentoso (non adpresse vel subadpresse sericeo-lanato), capitulo plerumque 1 (raro 3) in quoque caule (non 1–5 in quoque caule), phyllariis omnibus dense lanato-tomentosis (non longe atque effuse sericeo-tomentosis); phyllariis interioribus acuminatis (non acutis), acheniis dense lanato-tomentosis (non glabris), pappo cremeo (non albo), infra dense plumoso, supra barbellato (non radiis longioribus supra scabridis, brevioribus, plumosis).

Description: Decumbent, subscapigerous or caulescent perennial, whole plant densely lanate-tomentose; rootstock thick, cylindrical, 7–15 mm. FLOWERING STEM up to 13 cm. LEAVES oblanceolate or narrowly spathulate, densely lanate-tomentose, 2.5–11 × 0.6–1.3 cm, margins plane, apices acute or obtuse, amplexicaule; cauline leaves similar, gradually decreasing in size upwards. CAPITULA usually 1 (rarely 3) per stem, 12–17 mm. PHYLLARIES densely lanate-tomentose; outer phyllaries linear or linear-lanceolate, 4–7 × 0.5–1 mm, acuminate; inner phyllaries linear-lanceolate, 12–15 mm long, acuminate. FLORETS yellow, exceeding

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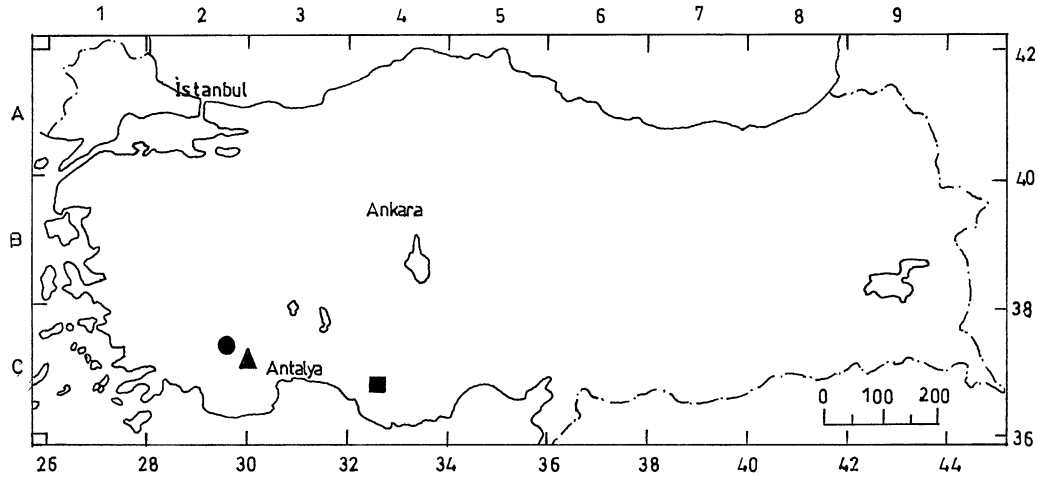


Figure 2. Distribution of ***Scorzonera gokcheoglui* sp. nov.** (■), *S. argryria* (▲) and *S. pisidica* (●) in Turkey.

Table 1. Comparison of the ***Scorzonera gokcheoglui* sp. nov.** with *S. argryria* and *S. pisidica*

Characters	***S. gokcheoglui* sp. nov.**	*S. argyria*	*S. pisidica*
Stem	Decumbent, densely lanate-tomentose	Erect, pannose	Procumbent or suberect, adpressed or subadpressed sericeous-lanate
Leaves	Oblanceolate or narrowly spathulate, densely lanate-tomentose	Ovate, pannose	Lanceolate or linear, adpressed or subadpressed sericeous-lanate
Capitula	Usually 1 (rarely 3) per stem	2–3 per stem	1–5 per stem
All phyllaries	Densely lanate-tomentose	Pannose	Long spreading sericeo-tomentose
Outer phyllaries	4–7 mm long	15 mm long	Unknown
Inner phyllaries	Linear-lanceolate, acuminate	Lanceolate, acute	Linear-lanceolate, acute
Achenes	Densely lanate-tomentose	Glabrous	Glabrous
Pappus	Cream, densely plumose below, barbellate above	Grey, densely plumose below, barbellate above	White, longer rays scabrid above, shorter ones plumose

involucre, 14–16 mm long, 8–11 per capitulum. ACHENES 6–8 mm, cylindrical, ridged, densely lanate-tomentose, yellowish-green; pappus 8–9 mm, cream, densely plumose below, barbellate above. Flowering period June–July, fruiting period July–August.

The new species is clearly different from both *S. argyria* Boiss. and *S. pisidica* Hub.-Mor. (see Table 1). From *S. argyria* it differs in that the stem is decumbent (not erect), densely lanate-tomentose (not pannose), the leaves are oblanceolate or narrowly spathulate (not ovate), densely lanate-tomentose (not pannose), capitula usually 1 (rarely 3) per stem (not 2–3 per stem), all phyllaries densely lanate-tomentose (not pannose); outer phyllaries 4–7 mm long (not 15 mm long), inner phyllaries linear-lanceolate (not lanceolate), acuminate (not acute), achenes densely lanate-tomentose (not glabrous); pappus cream (not grey). It differs from *S. pisidica* in that the stem is decumbent (not procumbent or suberect), densely lanate-tomentose (not adpressed or subadpressed sericeous-lanate), leaves oblanceolate or narrowly spathulate (not lanceolate or linear), densely lanate-tomentose (not adpressed or subadpressed sericeous-lanate), capitula usually 1 (rarely 3) per stem (not 1–5 per stem), all phyllaries densely lanate-tomentose (not long spreading sericeo-tomentose), inner phyllaries acuminate (not acute), achenes densely lanate-tomentose (not glabrous), pappus cream (not white), densely plumose below, barbellate above (not longer rays scabrid above, shorter ones plumose).

Habitat and distribution: We collected the new species from a calcareous area and in clearings in a *Pinus nigra* forest, from one locality in Alanya district in

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Antalya Province in south Anatolia (Fig. 2). Within this area, the new species is associated with plants such as *Pinus nigra* J. F. Arnold ssp. *pallasiana* (Lamb.) Holmboe, *Nepeta isaurica* Boiss. & Heldr., *Digitalis davisiana* Heywood, *Origanum husnucan-baserii* H. Duman, Aytaç & A. Duran, *Aethionema alanyae* H. Duman, *Origanum saccatum* P. H. Davis, *Vincetoxicum tmoleum* Boiss., *Sideritis arguta* Boiss. & Heldr. and *Linaria corifolia* Desf. The new species is found at an altitude of 1425 m. It is endemic and only known from the type locality where it has a very small population. It is suggested that this new species should be placed under the IUCN threat category 'Critically Endangered (CR)' (IUCN, 2001), because the estimated area of occupancy is less than 10 km^2 (criterion B2) and it is known from only one locality (criterion B2a). The population of the new species is estimated to number less than 250 mature individuals (criterion C).

Etymology: The new species is named in honour of Prof Dr Mustafa Gökçeoğlu, plant ecologist at Akdeniz University, Science and Arts Faculty, Antalya.

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