Scorzoneria pacis (Asteraceae), a new species from Hatay, Turkey

Yelda Güzel¹,*️, Samim Kayıkçı¹ & Serhat Yıldız²

1) Department of Biology, Faculty of Arts and Science, Mustafa Kemal University, 31040, Hatay, Turkey (*corresponding authors e-mail: yeldaguzel@gmail.com)
2) Doğanköy Village, No. 69, Antakya, Hatay, Turkey

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A new species, Scorzoneria pacis Guzel, Kayikci & S. Yildiz (Asteraceae) from Hatay Province, South Anatolia is described. It is a very distinct species with its saw-toothed, winged achenes. SEM micrographs of the achenes, notes on the habitat and distribution, and a comparison with its morphologically closest species are provided.


We describe this new Scorzoneria species in this paper. The description is complemented with SEM micrographs of the achenes, obtained with a JEOL-14 JSM-55LV scanning electron microscope.

Scorzoneria pacis Guzel, Kayıkci & S. Yildiz, sp. nova (Figs. 1, 2, 3, 4a, 5a).


Etymology. Pax is Latin for peace. We chose this name because the species was found in Hatay, which is known as a province of peace and tolerance.
Perennial, caulescent, up to 75-cm-tall herb. Rootstock thickened, cylindrical. Leaf residues present, not fibrous. Stems usually several and branched, ascending. Whole plant sparsely arachnoid-floccose, becoming glabrous at fruit maturity time. Basal leaves 15–25 × 0.2–1.2 cm, linear to lanceolate, entire, acuminate. Plant sometimes heterophyllous with linear and lanceolate leaves together. Cauline leaves 4–22 × 0.2–0.4 cm. Capitula (1–)2–4 per stem, 1.5–3 × 1–2 cm when flowering, becoming 2.5–4 × 3–3.5 cm in fruit. Outer surface of phyllaries sparsely arachnoid-floccose, especially in base; inner surface glabrous. Outer phyllaries ovate, acute to obtuse, 0.5–1 × 0.3–0.6 cm. Inner phyllaries ovate-lanceolate, acute to obtuse, 0.8–1.7 × 0.3–0.6 cm when flower and 1.4–3.8 × 0.7–1.2 cm in fruit. Florets yellow, exceeding involucre. Achenes 1.3–1.4 × 0.3–0.4 cm, excluding pappus, milky-brown or red-brown, narrowly
ellipsoid, 1–1.5 mm, with 5(-6) distinctly and regularly toothed wings. Lower 2–4 mm of achene wingless and hollow. Pappus 0.8–1 cm, heteromorph, short hairs plumose, long hairs plumose below and barbellate above. Flowering April–May, fruiting May–July.
Habitat and distribution. *Scorzoner a pacis* grows in maquis or *Pinus brutia* forests in association with *Lavandula stoechas*, *Myrtus communis*, *Cotinus coggygria*, *Pistacia terebinthus* subsp. *palaestina*, *Rhus coriaria*, *Ferula elaeochytris*, *Cistus creticus*, *Cistus salvi folius*, *Centaurea arifolia*, *Glycyrrhiza flavescens*, *Quercus cocci fera*, *Gla diolus antakiiensis*, *Thymus egi ii*, *Thymbra spicata* var. *spicata* and *Scutellaria heterophylla*. It is endemic to Hatay, Anatolia, where it is only known from the type locality and represented by only two populations within an area of less than 10 km².

*Scorzoner a pacis* is a very distinct species, particularly due to its saw-toothed and winged achenes. Although it is quite different from the stipe encountered in the subgenus *Podospermum*, it has a 2–4 mm long, wingless and hollow tubular basis.

*Scorzoner a pacis* can be compared to several species. It resembles *S. papposa* or *S. incisa* in terms of the achene morphology and its caulescent habit. Both *S. papposa* and *S. incisa* have deeply sulcate and somewhat verrucose achenes, but none of the achenes have dentate wings. The flowers of *S. papposa* are pink to lilac. Its leaves are shorter and wider, 6–10 × 0.8–2 (–6) cm. The achenes of *S. papposa* are 6.5–8.5 × ca. 2 mm, and thus shorter and thinner than in *S. pacis*. *Scorzoner a incisa* is compared in detail with *S. pacis* (see Table 1, Figs. 4 and 5). The leaves of *S. pacis* are linear as in *S. mollis*, *S. elata*, and *S. phaeopappa*. Nevertheless, none of those have entirely the same features as *S. pacis*. Thus, while it has some morphological similarities with several species, there is apparently no close relative. Additionally, although there are tuberculate or muricate achenes in some species, such as in *S. seminca*, *S. corticase*, *S. violacea*, *S. lacera*, or Syrian *S. verrucosa*, the distinctly toothed, winged achenes are unique to *S. pacis*.

*Scorzoner a pacis* should also be compared with *S. elata* in terms of habit and leaves, and with *S. incisa* in terms of achene morphology and branching (Table 1, Figs. 4 and 5).

Selected specimens examined. — *S. incisa*: Turkey. A7: Gümüşhane Monti Chamacia, 1862, Bourgeau, Pl. Armenian, B 10 0326676 (B, photo), P03655918 (P, photo). B7: In Cappadocia ad Ephrtem, Auer 3351, P00720114, (isotype, P, photo); Erzincan, Egin (Kemaliye), Hoscheiden, Sint. 1891:2312, 15.V.1890, P00720134, (type of *S. bicolor*, P, photo); Erzincan, Kemaliye, H. Akan 5036 (HUB). B9: Van, Güürmar, Y. Altan 541 (GAZI). C6: Kahramanmaraş, Gıksun, B. Yıldız 2032 (HUB). — *S. calyciflora*: (This Iranian species was examined because it was indicated as closely allied to *S. incisa* in *Flora of Turkey*). Iran. In monete Demavend Persiai bor., P00720135, Kotschy 341 and P00720136, Kotschy 324 and 342, (type samples, P, photo).

Table 1. Comparison of the diagnostic characters of *Scorzonera pacis*, *S. elata* and *S. incisa.*

<table>
<thead>
<tr>
<th>Characters</th>
<th><em>S. pacis</em></th>
<th><em>S. elata</em></th>
<th><em>S. incisa</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Root</td>
<td>thickened cylindrical with non-fibrous leaf residues</td>
<td>tuberous cylindrical with non-fibrous leaf residues</td>
<td>cylindrical crowned by dead petiole remains</td>
</tr>
<tr>
<td></td>
<td>usually several, each one is branched</td>
<td>one, profusely branched</td>
<td>one, branched</td>
</tr>
<tr>
<td>Indumentum</td>
<td>sparsely arachnoid-floccose</td>
<td>glabrous</td>
<td>sparsely arachnoid pubescent</td>
</tr>
<tr>
<td>Leaves</td>
<td>linear to lanceolate, entire, basal leaves 15–25 × 0.2–1.2 cm</td>
<td>linear, entire, basal leaves 5–20 × 0.1–0.2 cm</td>
<td>narrowly to broadly elliptic in outline</td>
</tr>
<tr>
<td></td>
<td>(1–)2–4 per stem 15–30 mm long</td>
<td>(1–)3–7 per stem 28–32 mm long</td>
<td>dentate to pinnatifid, basal leaves 10–23 × 2.4–8 cm</td>
</tr>
<tr>
<td>Flowers</td>
<td>yellow</td>
<td>yellow</td>
<td>yellow with</td>
</tr>
<tr>
<td></td>
<td>8–17 mm, ovate-lanceolate</td>
<td>19–22 mm, lanceolate</td>
<td>dark purple tube</td>
</tr>
<tr>
<td>Inner phyllaries</td>
<td>13–14 × 3–4 mm</td>
<td>8 × 1–2 mm</td>
<td>ca. 25 mm, lanceolate</td>
</tr>
<tr>
<td>Achene size</td>
<td>narrowly ellipsoid with toothed wings, base of the achene not winged, hollow</td>
<td>cylindrical ridged, irregularly verrucose, stipitate</td>
<td>narrowly ellipsoid deeply sulcate, with warty wings,</td>
</tr>
<tr>
<td>Achene shape</td>
<td>brownish</td>
<td>white</td>
<td>not stipitate</td>
</tr>
<tr>
<td>Pappus</td>
<td></td>
<td></td>
<td>dirty white</td>
</tr>
</tbody>
</table>

been mentioned in *Flora of Turkey*. — *S. mollis*. **Turkey.**


References


Ozhatay, N., Kültür, Ş. & Aksoy, N. 1999: Check-list of additional taxa to the Supplement Flora of Turkey II. —