

Silene ozyurtii (Caryophyllaceae), a new species from Anatolia, Turkey

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A new species, *Silene ozyurtii* Aksoy & Hamzaoglu (Caryophyllaceae), is described from the north parts of western Taurus facing central Anatolia, between the Konya and Isparta provinces, in southwest Anatolia, Turkey. The species is compared with morphologically similar taxa in sect. *Tunicoideae*.

Key words: Caryophyllaceae, new species, *Silene*, taxonomy

Silene (Caryophyllaceae) is a large genus of flowering plants and comprises ca. 750 species, of which approximately half occur in the Mediterranean area. The southern part of the Balkan Peninsula and southwest Asia are two of the main diversity centres (Greuter 1995). *Silene* in Turkey was revised by Coode and Cullen (1967). Twelve new species from Turkey have been described and five species have been recorded as new for Turkey since the publication of the second volume of *Flora of Turkey and the East Aegean Islands* (Davis *et al.* 1988, Tan & Vural 2000, Duran & Menemen 2003).

The species reported here belongs to the endemic oligotypic section *Tunicoideae*, which after this addition now has three species, all distributed in southwest Anatolia.

The specimens on which this paper is based were first collected in May 2005, during a botanical trip to the Çamlık town (Konya province, Derebucak district). In the summer, the area was revisited and flowering and fruiting specimens

were collected. The collected material was compared with descriptions of the closely similar *Silene tunicoides* and *S. brevicalyx*, with relevant literature (Coode & Cullen 1967, Davis *et al.* 1988, Tan & Vural 2000) as well as with material in the herbaria of Hacettepe University (HUB) and Gazi University (GAZI).

Silene ozyurtii Aksoy & Hamzaoglu, *sp. nova* (Fig. 1)

Affinis S. tunicoide sed limbis corollis distincte divisis (nec integris), capsulis calycibus superrantibus, oblongis-ovoideis, 4.5–6.5 mm longis (nec capsulis calycibus includentibus, globosis, 3–4 mm longis) differt.

TYPE: Turkey. C3 Konya: Derebucak, Çamlık town, Kızıldağ, Üçoluk place, 37°21.2'N, 31°39.8'E, 1450 m, 25.VI.2005 Aksoy & Hamzaoglu 3695 (holotype BOZOK; isotypes BOZOK, ANK, HUB, GAZI).

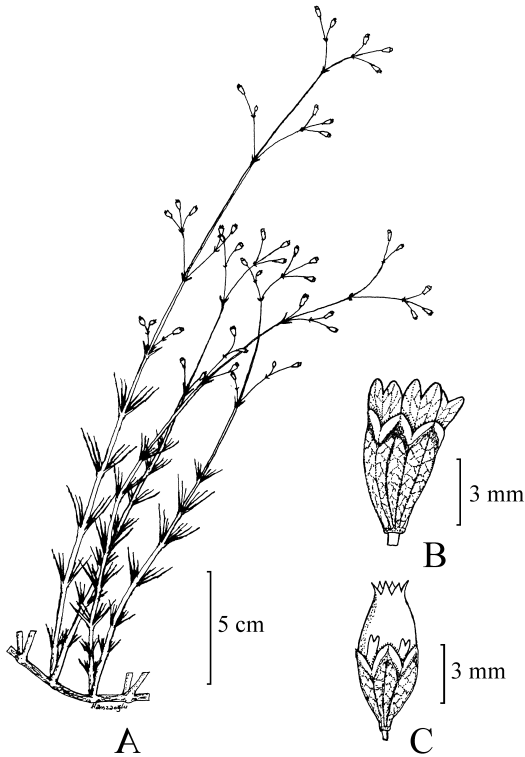


Fig. 1. *Silene ozyurtii* (from the holotype). — **A:** Habit. — **B:** Flower. — **C:** Fruit.

PARATYPES: Turkey. C3 Konya: Derebucak, Çamlık town, Kızıldağ, Üçoluk place, 37°21.2'N, 31°39.8'E, 1445 m, 30.V.2005 Aksoy, Budak & Hamzaoğlu 3651 (BOZOK); ibid. İncirli, Bayır place, 37°22.6'N, 31°35.7'E, 1750 m, 25.VI.2005 Aksoy & Hamzaoğlu 3734 (BOZOK, ANK, HUB, GAZI); C3 Isparta: between Sütçüler and Eğridir, 60. km, 1200–1400 m, 22.VI.1996 Özçelik 7507 (GAZI).

ETYMOLOGY: This species is named in honour of the eminent Turkish botanist, Prof. Dr. Sabri Özyurt (Biology Department, Dumlupınar University).

Suffruticose perennial. Stems numerous, 15–35 cm long, erect to ascending, terete, slender, 0.8–1.5 mm diam., retrorsely puberulent or minutely papillose below, glabrous and glandular-viscid above, leafy ± halfway to base of inflorescence. Median cauline internodes 10–25 mm long; nodes distinctly swollen. Leaves mostly basal, lower leaves not persistent, only sheaths and midribs remaining. Middle and upper leaves straight to slightly falcate, 12–22 × 0.5–1.1 mm, subulate, with aculeolate-papillate margins; paired leaves joined by a short, ± membranous sheath; fascicles of smaller leaves

present in axils of main leaf pairs. Inflorescence paniculate, with 2–4 pairs of 1–3-flowered, erecto-patent branches. Bracts similar to cauline leaves but shorter. Lower and middle pedicels (6–)12–24(–30) mm long, straight; bracteoles small, oblong-lanceolate with membranous and ciliolate margin. Calyx campanulate, 4.5–6 mm long, 10-veined, glabrous; teeth broadly ovate to triangular, 0.8–1.2 × 0.9–1.3 mm, obtuse to ± acute, with broadly scarious and densely ciliolate margin. Petals minute, 5–6 mm long; limb ± linear, distinctly divided to 1/8–1/4, greenish-cream; lobes narrowly ovate-triangular, (0.65–)0.8–1.2(–1.5) mm long. Capsules oblong-ovoid, 4.5–6.5 × 2–2.5 mm, distinctly exceeding calyx, pale brown, smooth. Anthophore 1.4–2 mm long, glabrous.

DISTRIBUTION: *Silene ozyurtii* is endemic in the area between Konya (Derebucak district) and Isparta (Sütçüler district), southwest Anatolia, and belongs to the Mediterranean (East Mediterranean subregion) element. The species is restricted to serpentine parent rock at several small and isolated populations under the impact of grazing, especially during the fruiting season. West Taurus forms a topographic dispersal barrier separating *Silene ozyurtii* from *S. tunicooides* and *S. brevicalyx* (Fig. 2). Several researchers recently published some new taxa from Kızıldağ (Konya: Derebucak, Çamlık town), which is one of the distribution areas of *S. ozyurtii* (Aytaç & Aksoy 2000a, 2000b, Parolly & Scholz 2004, Wörz & Duman 2004, Aytaç & Mill 2005).

HABITAT AND LIFE FORM: *Silene ozyurtii* grows as a lithophyte on serpentine stony slopes and in open forests, and in human-impacted steppes with *Pinus nigra* subsp. *nigra* var. *caramanica*, together with *Onosma cappadocicum*, *Scorzonera* sp., *Helichrysum arenarium* subsp. *aucheri*, *Centaurea reuterana*, *Cruciata taurica*, *Silene rhynchocarpa*, *Silene spergulifolia*, *Paronychia argyroloba*, *Euphorbia anacamperos* var. *anacamperos*, *Minuartia anatolica* var. *polymorpha*, *Dianthus crinitus* var. *crossopetalus*, *Senecio vernalis*, *Ferula* sp., and *Pimpinella* sp. at an altitude of 1200–1750 m. It flowers in May and June and fruits in June and July. It is a chamaephyte.

The taxa belonging to section *Tunicoideae* have the appearance of *Velezia*, *Petrorrhagia* or

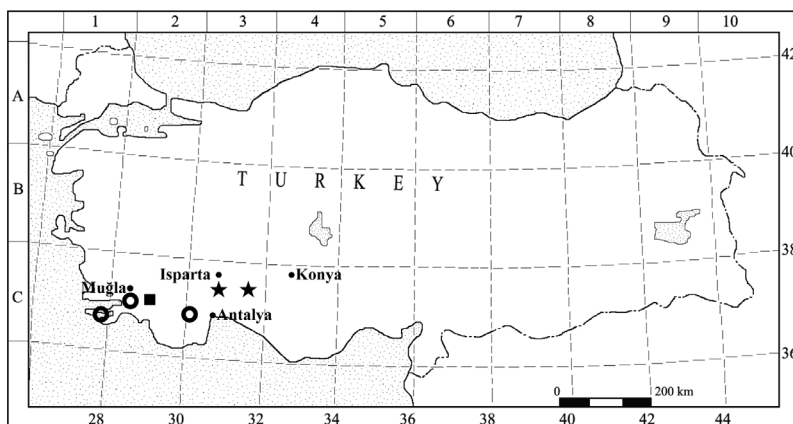


Fig. 2. Distribution map of *Silene ozyurtii* (★), *S. tunicoides* (○) and *S. brevicalyx* (■) in Turkey.

Gypsophila (Coode & Cullen 1967: 222). There are now three species (including *Silene ozyurtii*) in the section and all of them are distributed in southwest Anatolia (Coode & Cullen 1967, Davis *et al.* 1988).

Silene tunicoides is the species described first in this section. It grows on serpentine parent rock between 10–1700 meters in the vicinity of Muğla and Antalya. *Silene brevicalyx* was collected from Ağla village on serpentine parent rock in Sandras Mountain at 1250 meters in 1987 (Davis *et al.* 1988). Altitude and parent rock preferences are similar for both species. The authors visited the type locality of *S. brevicalyx* on 16 July 2005, but did not find any specimens of it. We contacted the herbaria indicated in the *Flora of Turkey* (Davis *et al.* 1988) to locate type material or photographs of the species, but were not successful. Therefore the taxonomic relationship between *S. brevicalyx* and *S. tunicoides* cannot be interpreted exactly. The morphological characters of *S. brevicalyx* were taken from the description in Davis *et al.* (1988).

Silene ozyurtii differs from both of the other species in the section in several characters (Table 1).

Representative specimens examined of *Silene tunicoides*: **Turkey.** C1-2 Muğla: Marmaris-Datça arası, *H. Duman 4412* (GAZI); C2 Muğla: Köyceğiz, Hamitköy-Versele arası, *A. Güner 10488*, *M. Vural*, *A. A. Dönmez* & *H. Sağlam* (GAZI); Muğla: Köyceğiz, Sandras Dağı, Ağla-Göl arası, *H. Duman 5715* & *K. H. C. Başer* (GAZI); Muğla: Köyceğiz, Hamitköy, Topalaktepe, *A. Güner 9156*, *M. Vural* & *H. Şağban* (HUB); Muğla: Köyceğiz, Beyobası Köyü, Süpürgeliktepe, *A. Güner 9306*, *M. Vural* & *H. Şağban* (HUB); C3 Antalya: Kemer, Çıralı, *A. Duran 4201* (GAZI); Çıralı, approx. 2.5 km N of Çıralı in direction of Chimaera, and 0.7 km S of Chimaera carpark, *R. D. Reeves 1689* (GAZI).

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Table 1. A morphological comparison of *Silene ozyurtii* with *S. tunicoides* and *S. brevicalyx*.

Characters	<i>Silene ozyurtii</i>	<i>Silene tunicoides</i>	<i>Silene brevicalyx</i>
Calyx	4.5–6 mm long	3–5 mm long	2.2–2.6 mm long
Calyx teeth	margin densely ciliolate	margin sparsely ciliolate	margin sparsely ciliolate
Petals	5–6 mm long	5–6.5 mm long	3–3.4 mm long
Petal limbs	divided to 1/8–1/4	entire	entire
Capsules	oblong-ovoid, 4.5–6.5 × 2–2.5 mm, distinctly exceeding calyx	globose, 3–4 × 2.2–3.5 mm including calyx	ovoid, 3–3.6 × 2.3–2.6 mm, distinctly exceeding calyx

References

- Aytaç, A. & Aksoy, A. 2000a: A new *Sideritis* species (Labiatae) from Turkey. — *Flora Mediterranea* 10: 181–184.
- Aytaç, A. & Aksoy, A. 2000b: A new species of *Bornmuellera* Hausskn. (Brassicaceae) from South Anatolia, Turkey. — *Botanical Journal of the Linnean Society* 134: 485–490.
- Aytaç, A. & Mill, R. R. 2005: Two new species of Boraginaceae (Tribe Cynoglosseae) from Turkey. — *Edinburgh Journal of Botany* 61: 109–118.
- Coode, M. J. E. & Cullen, J. 1967: *Silene* L. — In: Davis, P. H. (ed.), *Flora of Turkey and the East Aegean Islands*, vol. 2: 179–242. Edinburgh University Press, Edinburgh.
- Davis, P. H., Mill, R. R. & Tan, K. 1988: *Silene* L. — In: Davis, P. H., Mill, R. R. & Tan, K. (eds.), *Flora of Turkey and the East Aegean Islands*, vol. 10 (Suppl. 1): 76–81. Edinburgh University Press, Edinburgh.
- Duran, A. & Menemen, Y. 2003: A new species of *Silene* (Caryophyllaceae) from south Anatolia, Turkey. — *Botanical Journal of the Linnean Society* 143: 109–113.
- Greuter, W. 1995: *Silene* (Caryophyllaceae) in Greece: a subgeneric and sectional classification. — *Taxon* 44: 543–581.
- Parolly, G. & Scholz, H. 2004: *Oreopoa* gen. novum, two other new grasses and further remarkable records from Turkey. — *Willdenowia* 34: 145–158.
- Tan, K. & Vural, M. 2000: *Silene* L. — In: Güner, A., Özhatay, N., Ekim, T. & Başer K. H. C. (eds.), *Flora of Turkey and the East Aegean Islands*, vol. 11 (Suppl. 2): 50–53. Edinburgh University Press, Edinburgh.
- Wörz, A. & Duman, H. 2004: *Eryngium trisectum* (Apiaceae, Saniculoideae), a new species from Turkey. — *Willdenowia* 34: 421–425.