Silene sumbuliana (Caryophyllaceae), a new species from SW Anatolia, Turkey

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Silene sumbuliana İ.G. Deniz & O.D. Düşen, sp. nova (Caryophyllaceae) is described and illustrated from SW Anatolia, Turkey. Diagnostic morphological characters for discrimination from the related S. papillosa Boiss. is given along with their ecological and chorological characteristics and relationship.

Key words: Caryophyllaceae, Silene, taxonomy, Turkey

The genus Silene is represented by ca. 700 species worldwide, 136 of which are found in Turkey (Coode & Cullen 1966, Davis et al. 1988, Tan & Vural 2000, Duran & Menemen 2003). Since Silene was revised for Flora of Turkey (Coode & Cullen 1966), 12 new species and three subspecies have been described from the country and five species added as new records for Turkey (Tan & Vural 2000). Thus, Silene is one of the most species-rich taxa in Turkey.

During “An investigation on the Flora of Elmali Cedar Research Forest Project” in May 2002, a peculiar Silene specimen was collected by the senior author in Avlankuzu mountain (W of Antalya, Turkey). More material of the same species was gathered by Deniz and Düşen in the same area in 2003.

These specimens were checked in the herbaria of AKDU (Akdeniz University Herbarium, Antalya) and GAZI (Gazi University Herbarium, Ankara) with the Flora of Turkey (Coode & Cullen 1966, Davis et al. 1988, Tan & Vural 2000). As the specimens did not resemble any described taxon, we concluded that they represent an undescribed species closely related to S. papillosa.

Silene sumbuliana İ.G. Deniz & O.D. Düşen, sp. nova (Fig. 1)

Affinis S. papillosae sed indumento antrorso vel patulo glandulososo pubescente (non retrorso puberulo), basalibus et inferis foliis spatulatis, distincte petiolatis (non oblonge-ovatis, sessilibus), foliis superioribus oblonge-spatulatis (non oblongis), alaribus floribus distincte pedicellaribus (non ± sessilibus), calyce ferente breves et longos glandulosos pilos (non eglan-dulosos), petalis integris vel minute-emarginatis (non penite-bipartitis), anthophoro confertim vil-loso et 4.5–5.5 mm (non glabello et 3–3.5 mm), seminibus differentibus ab subglobosis ad glo-bosa, colliculatis et obscure-brunneis vel atro-brunneis (non reniformis, aculeatis et pallide-brunneis), florescentia mensis Iunio et Quintili (non Aprili et Maio), S. sumbuliana crescente in clivis calcereis et luco in sylva Cedri libani (non
Fig. 1. Silene sumbuliana (from holotype). — A: Habit. — B: Calyx upon fruiting. — C: Capsule. — D: Seed (dorsal surface).
in locis saxosis et foraminibus in Querco coccifera) differt.

**TYPE**: Turkey. C2/3 Antalya: Elmali, Çamkuyu, the top of Avlankuzu Mountain, 1850–1880 m, clearings in Cedrus libani forest and on calcareous slopes, 21.V.2001 I.G. Deniz 1573 (holotype AKDU; isotypes ANK, HUB, GAZI).

Annual, 10–35 cm tall. Stem ascending or erect, slender, terete, 1–2 mm diam., densely and antorsely pubescent (or with spreading glandular hairs), simple or branched below. Basal and lower leaves spatulate, 12–21(–25) × 2.5–5 mm, acute, distinctly petiolate, puberulent, upper leaves oblong-spatulate, 10–22 × 3–5 mm, acute, ± sessile, puberulent. Bracts similar to cauline leaves but shorter, puberulent, bracteoles small, linear-lanceolate. Flowers diurnal, 3–10, in lax compound dichasia; alar flower present, erect and distinctly pedicellate. Pedicels 5–15 (–20) mm, straight, puberulent. Calyx (8–)10–17 mm, ± tubular at anthesis, clavate in fruit, constricted round anthophore, contracted at the apex in fruit, bearing short and long glandular hairs, distinctly 10-nerved, teeth triangular, 1–2 mm, acute. Anthophore 4.5–5.5 mm, densely villose. Petals 14–17 mm, pink; limb 7–8 mm, entire or minutely emarginate. Filaments 8–10 mm, glabrous. Anthers 0.9–1.1 mm, slightly exceeding claw. Styles 3. Capsule 6–8 mm, ovoid, smooth, glabrous, immersed in calyx. Longest diameter of seeds 0.5–1 mm, subglobose to globose, colliculate, dark-brown to blackish-brown. Flowering June–July, fruiting July–August.

**ETYMOLOGY**. The new species is named in honour of Prof. Dr. Hüseyin Sümbül, a plant taxonomist at Akdeniz University, Faculty of Art and Science, Antalya.

This new species is similar to *Silene papillosa* but differs from it by the characters listed in Table 1. *Silene sumbuliana* is endemic to SW Anatolia (Fig. 2) and belongs in the East Mediterranean element. Its altitudinal range is 1850–1880 m. The associated species include *Cedrus libani*, *Ornithogalum pamphylicum*, *Sedum album*, *Centaurea pestalozzae*, *Knautia integrifolia* var. bidens, *Crupina crupinastrum*, *Papaver spicatum* var. *spicatum*, *Saponaria chlorifolia*, *Spergularia rubra*, and *Picris strigosa*.

**CONSERVATIONAL STATUS**. The new species is known from only one location where its distribution area is less than 10 km² (criterion B) and population size estimated to number fewer than 250 mature individuals (criterion C) so that it could be evaluated as “critically endangered (CR)” according to new the IUCN categories (IUCN 2001).

**ADDITIONAL SPECIMENS EXAMINED** (paratypes). — Turkey. C2/3 Antalya: Elmali, Çamkuyu, the top of Avlankuzu Mountain, 1850–1880 m, clearings in *Cedrus libani* forest and on calcareous slopes, 09.VI.2001 I.G. Deniz 1750 (AKDU). C2/3 Antalya: Elmali, Çamkuyu, the top of Avlankuzu Mountain, 1850–1880 m, clearings in *Cedrus libani* forest and on calcareous slopes, 08.VII.2003 I.G. Deniz 2310, 2626 (AKDU).

**REPRESENTATIVE SPECIMENS EXAMINED** of *Silene papillosa*. — Turkey. A. Güner et al., A. Güner 9052 (GAZI); R.M. Nesbitt & D. Samuel 1871 (GAZI); N. Adigüzel & Z. Aytaç 6993 (GAZI); İ. Çinbilgel 1885 (AKDU).

**Table 1. Comparison of Silene sumbuliana with S. papillosa.**

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<thead>
<tr>
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<th><em>S. sumbuliana</em></th>
<th><em>S. papillosa</em></th>
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<tbody>
<tr>
<td>Indumentum</td>
<td>antorsely pubescent or with spreading glandular hairs</td>
<td>retrorsely puberulent</td>
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<tr>
<td>Leaves</td>
<td>basal and lower leaves spatulate, distinctly petiolate, upper leaves oblong-spatulate</td>
<td>basal and lower leaves oblong-ovate, sessile, upper leaves oblong</td>
</tr>
<tr>
<td>Alar flower</td>
<td>distinctly pedicellate</td>
<td>± sessile</td>
</tr>
<tr>
<td>Calyx</td>
<td>with short and long glandular hairs</td>
<td>with eglandular hairs</td>
</tr>
<tr>
<td>Petals</td>
<td>entire or minutely emarginate</td>
<td>deeply bipartite</td>
</tr>
<tr>
<td>Anthophore</td>
<td>densely villose, 4.5–5.5 mm</td>
<td>glabrous, 3–3.5 mm</td>
</tr>
<tr>
<td>Seeds</td>
<td>subglobose to globose, colliculate, dark brown to blackish brown</td>
<td>reniform, aculeate, light brown</td>
</tr>
<tr>
<td>Flowering time</td>
<td>June–July</td>
<td>April–May</td>
</tr>
<tr>
<td>Habitat</td>
<td>clearings in <em>Cedrus libani</em> forest and calcareous slopes</td>
<td>rocky places and openings in</td>
</tr>
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</table>
Acknowledgements

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References


Fig. 2. Distribution of Silene sumbuliana (▲) and S. papillosa (●) in Turkey.