

TWO NEW SPECIES OF *CAMPANULA* L. (*CAMPANULACEAE*) FROM SW TURKEY

H. DUMAN*

Two new species of *Campanula* L. (*Campanulaceae*) from SW Anatolia are described and illustrated: *Campanula yaltirikii* H. Duman (sect. *Tracheliopsis*) and *C. koyuncui* H. Duman (sect. *Rupestres*).

Keywords. *Campanula*, *Campanulaceae*, new species, Turkey.

INTRODUCTION

Since *Campanula* L. was revised by J. Damboldt for the *Flora of Turkey* (Damboldt, 1979), 11 new species and one subspecies have been described from Turkey: *C. choruhensis* Kit Tan & Sorger, *C. seraglio* Kit Tan & Sorger, *C. ekimiana* A. Güner, *C. peshmenii* A. Güner, *C. aghrica* Kit Tan & Sorger, *C. lycica* Kit Tan & Sorger, *C. antalyensis* Ayaşlıgil & Kit Tan, *C. yildirimlii* Kit Tan & Sorger (Davis *et al.*, 1988), *C. blumelii* Halda (Halda, 1989), *C. sivasica* Kit Tan & Yıldız (Yıldız & Kit Tan, 1988), *C. kirikkaleensis* A.A. Dönmez & A. Güner (Dönmez & Güner, 1993), *C. latiloba* A. DC. subsp. *rizeensis* A. Güner (Güner, 1984). One subspecies (*C. trachelium* L. subsp. *trachelium*) was also added as a new record for Turkey (Erik, 1990). In this paper, *Campanula yaltirikii* and *C. koyuncui* are described as new species; these bringing the total number of *Campanula* species known from Turkey to 108.

***Campanula yaltirikii* H. Duman, sp. nov. Figs 1, 3.**

[Sect: *Tracheliopsis* (Buser) Damboldt]

Affinis *C. fruticosae* (Schwarz & P.H. Davis) Damboldt et *C. buseri* Damboldt sed a *C. fruticulosa* pedicellis filiformibus, usque ad 10mm longis, glabris (non ad 5mm tantum, pubescentibusque), calyce glabro, corollaque glabra (haud pubescenti) distincta. A *C. buseri* caule humiliore 1.5–6cm alto tantum (non 10–30cm), foliis caulinis medianis ellipticus usque ad ovatis, 4–10 × 2–6mm (non lanceolatis usque ad ellipticis, 15–30 × 3–11mm), pedicellis usque ad 10mm longis (non 14–17mm), lobis calycis 1–1.5mm (non 2–3mm), corolla 4–5mm (non 5–8mm) differt.

Type: Turkey C2 Antalya; Elmali, Çığlıkara, 1900–1950m, on calcareous rocks, 1 viii 1995, H. Duman, M. Ekici & A. Duran [Duman 5977] (holo. GAZI; iso. E, ANK, ISTE).

Dwarf caespitose suffruticose perennial. *Stem* numerous, erect, 1.5–6cm, fragile, hispidulous. *Leaves* minute, sessile, elliptic to broadly ovate, 4–10 × 2–6mm, entire or

* Gazi University, Faculty of Science and Arts, Department of Biology, 06500 Ankara, Turkey.

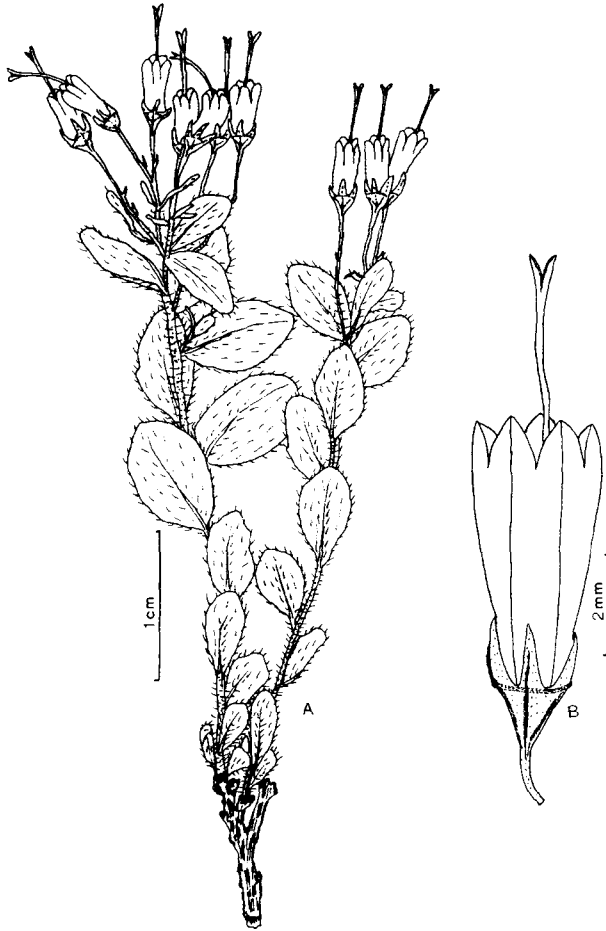


FIG. 1. *Campanula yaltirikii* H. Duman: A, habit; B, flower. Drawn by A. Duran.

with 1–2 teeth on each side, indistinct nervature, obtuse or slightly acute, strigose on both surfaces. *Inflorescence* a (3–)5–15(–20)-flowered corymb. *Pedicels* filiform, to 10mm, glabrous or very rarely hispidulous in lower part. *Calyx* without appendages, 5-merous, 2–3mm including 1–1.5mm linear-lanceolate lobes, glabrous. *Corolla* narrowly cylindrical-infundibular, white or sometimes lavender blue, 4–5mm including the triangular 0.5–1mm lobes, glabrous. *Filaments* c.3mm, glabrous; anthers apiculate, c.2mm. *Style* c.10mm, conspicuously exerted from the corolla; stigmas 2–3, recurved. *Capsule* c.1.5–2mm long, opening by 3 basal pores. *Fl.* 8.

C. yaltirikii occurs on calcareous rocks only in Çıglıkara (Elmalı-Antalya) and grows with *Potentilla nerimaniae* H. Duman (see Duman & Mill, 1999). These two new species are very rare and endemic to SW Anatolia.

Recommended IUCN Threat Category Listing. Critically Endangered (CR). This

species is similar to *C. fruticulosa* and *C. buseri*. From *C. fruticulosa*, it differs by the filiform pedicels, to 10mm, glabrous (not to 5mm and pubescent); calyx and corolla glabrous (not pubescent). From *C. buseri*, it differs by stem 1.5–6cm (not 10–30cm); median cauline leaves elliptic to ovate, 4–10 × 2–6mm (not lanceolate to elliptic, 15–30 × 3–11mm); pedicels to 10mm (not 14–17mm); calyx lobes 1–1.5mm (not 2–3mm); corolla 4–5mm (not 5–8mm).

This new species is named in honour of Prof. Dr Faik Yaltırık, for many years forest engineer and plant taxonomist at Istanbul University, Forestry Faculty, but now retired.

***Campanula koyuncui* H. Duman, sp. nov. Figs 2, 3.**

[Sect: *Rupestres* (Boiss.) Charadze]

Affinis *C. calaminthifolia* Lam. sed planta hispido-hirsuta (non molliter pubescenti), lobis calycis 6–10mm (non 3–4mm), appendiculis conspicuis usque ad 7mm longis ovario longioribus (haud inconspicuis nec $\frac{1}{4}$ × ovario), corolla usque ad $\frac{1}{3}$ partem longitudinis divisa, extus hirsuta (non ad medium divisa, extus tomentosa), stylo incluso (haud exserto) differt.

Type: Turkey C2 Muğla; Fethiye, Baba Dağ, 1750m, calcareous rocks, 20 vi 1995, H. Duman, K.H.C. Başer & A. Altınış [Duman 5728] (holo. GAZI; iso. E, ANK.). ibid., 1500–1600m, 14 vi 1993, M. Koyuncu & H. Duman [M. Koyuncu 10424] (para. AEF).

Plant perennial, with thick taproot, densely hispid-setose. Stems 5–10(–15)cm, thin, fragile, decumbent, numerous, simple, greenish to purplish, densely leafy. Basal leaves rosulate, ovate-oblong to spatulate, obtuse, crenate-serrate, 5–15(–20) × 4–10mm, densely hispid-setose on both surfaces; petiole to 3cm, hispid. Cauline leaves broadly ovate to elliptic, crenate-serrate or subentire, 4–14 × 4–10mm, sessile. Flowers erect, solitary or inflorescences racemose to 5-flowered. Pedicels to 10mm. Calyx lobes triangular-lanceolate, acute, erect, 6–8 (–10)mm. Appendages conspicuous, triangular, acute to obtuse, reflexed, to 7mm, longer than ovary. Corolla violet blue, cylindrical-infundibular, divided to $\frac{1}{3}$, 10–15mm, hirsute outside. Filaments ovate, long ciliate, 1.5–2mm; anthers c.6mm white. Receptacle glabrous. Style pilose, included in corolla tube; stigma shortly 3-lobed. Capsule 3–4mm, dehiscent irregularly between ribs. Seeds flattened, ellipsoid, c.1 × 0.5mm, pale yellowish brown, shiny. Fl. 6, Fr. 7.

Endemic. East Mediterranean element.

IUCN Threat Category Listing. Endangered (EN). *C. koyuncui* occurs on calcareous rocks on Baba Dağ (near Fethiye) and grows with *Satureja spinosa* L., *Omphalodes luciliae* Boiss. subsp. *luciliae*, *Paracaryum lithospermifolium* (Lam.) Grande subsp. *cariense* (Boiss.) R.R. Mill and *Aurinia rupestris* (Ten.) Cullen & Dudley subsp. *cyclocarpa* (Boiss.) Cullen & Dudley.

This species is similar to *C. calaminthifolia* Lam. which is distributed in the East Aegean Islands (Ikaria, Naxos), but *C. koyuncui* differs in being hispid-hirsute (not



FIG. 2. *Campanula koyuncui* H. Duman: A, habit; B, flower. Drawn by F. Özkaya.

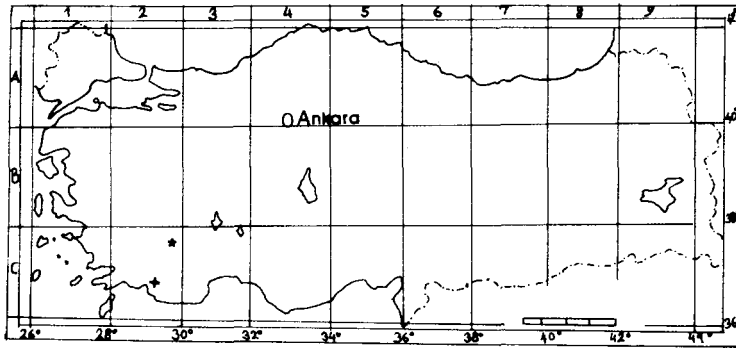


FIG. 3. Distribution of *Campanula yaltirikii* (*) and *Campanula koyuncui* (+).

softly pubescent), with calyx lobes 6–10mm (not 3–4mm), appendages conspicuous to 7mm, longer than the ovary (not inconspicuous, $\frac{1}{4} \times$ ovary), corolla divided to $\frac{1}{5}$, hirsute outside (not divided to $\frac{1}{2}$, tomentose outside), style included (not exerted).

This new species is named in honour of Prof. Dr Mehmet Koyuncu, Pharmacologist and Plant Taxonomist at Ankara University, Pharmacy Faculty, Ankara.

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REFERENCES

- DAMBOLDT, J. (1979) *Campanula* L. In: DAVIS, P. H. (ed.) *Flora of Turkey and the East Aegean Islands* 6: 2–64. Edinburgh: Edinburgh University Press.
- DAVIS, P. H., MILL, R. R. & KIT TAN (1988). *Campanula* L. In: DAVIS, P. H. (ed.) *Flora of Turkey and the East Aegean Islands* 10: 177–180. Edinburgh: Edinburgh University Press.
- DÖNMEZ, A. A. & GÜNER A. (1993). A new species from Central Anatolia-*Campanula kirikkaleensis* (*Campanulaceae*). *The Karaca Arboretum Magazine* 2: 115–119.
- DUMAN, H. & MILL, R. R. (1999). Two new species of *Potentilla* L. (*Rosaceae*) from SW Turkey. *Edinb. J. Bot.* 56: 349–354.
- ERIK, S. (1990). New taxa for the flora of Turkey. *Doğa, Türk J. Bot.* 14: 49–54.
- GÜNER, A. (1984). A new record for the Flora of Turkey and a new subspecies from Anatolia. *Candollea* 39: 345–348.

HALDA, J. J. (1989). New species of the genus *Campanula* from Central Turkey. *Preslia* 61: 321–322.

IUCN SPECIES SURVIVAL COMMISSION, 1994, *IUCN Red List Categories*. Gland, Switzerland.

YILDIZ, B. & KIT TAN (1988). Thirteen new species from Turkey. *Notes Roy. Bot. Gard. Edinburgh* 45: 439–451.

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