

## *Gypsophila yusufeliensis* (Caryophyllaceae), a new species from Turkey

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*Gypsophila yusufeliensis* Budak *sp. nova* (Caryophyllaceae) is described from Yusufeli (Artvin province, Turkey). It resembles especially *G. patrinii*. The diagnostic characters, as well as a full description and figures of new species are provided.

*Gypsophila* (Caryophyllaceae) is a predominantly Eurasian genus. It is not just among the largest genera in the subfamily Silenoideae, but also one of the most polymorphic ones. It occurs in the north-temperate part of the Old World, mainly between the latitudes 30° and 60°. Most of the *Gypsophila* species are concentrated in quite a small part of the geographic area of distribution. This part of the area includes Turkey, Caucasia, northern Iraq and northern Iran (Barkoudah 1962, Ataslar & Ocak 2005). One-hundred and fifty different species are encountered mostly in steppes on dry slopes or sandy soil of the temperate Eurasia, East Mediterranean and Irano-Turanian region, Egypt, Arabia, Somalia. Only one species, *G. australis*, is present in Australia and New Zealand (Bittrich 1993).

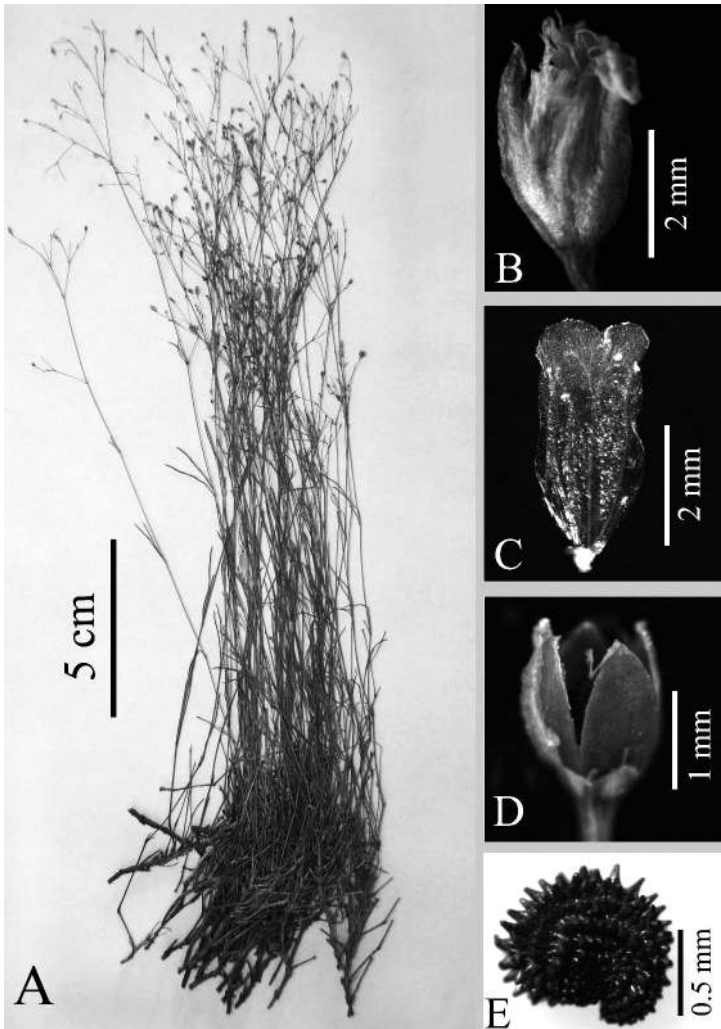
In Turkey, *Gypsophila* has 55 species in ten sections (Hüber-Morath 1967, Davis *et al.* 1988, Ataslar 2000, Ataslar & Ocak 2005). *Gypsophila* sect. *Corymbosae* has two species in the country. The section includes perennial species with ± corymbose inflorescences, rigid pedicels shorter than or 2–3 times longer than calyx, a campanulate calyx, and mostly with distinct calcium oxalate crystals (Hüber-Morath 1967,

Davis *et al.* 1988). The species described here belongs in the section *Corymbosae* and raises the number of *Gypsophila* species in Turkey to 56.

The author collected some interesting *Gypsophila* specimens in the Yusufeli district (Artvin province, northeastern Anatolia) in 2010. The specimens were compared with the photos of the type material of *G. patrinii* from the Geneva herbarium (G00214276 type specimens; G00214409, G002144411). Also the specimens were compared with species descriptions in the literature (Barkoudah *et al.* 1964, Rechinger 1964, Zohary 1966, Hüber-Morath 1967, Shishkin 1970, Rechinger 1988, Bojňanský & Fargašová 2007: 79–81). After that work we concluded that we had a new species at hand.

***Gypsophila yusufeliensis* Budak, *sp. nova***  
(Fig. 1)

TYPE: Turkey. A8 Artvin: Yusufeli, between Sarigöl-Bıçakçılar villages, 1255 m, rock crevices, 41°00.81'N, 41°25.70'E, 28 July 2010 Budak 2467 (holotype Bozok Univ. Biology Dept. Herbarium; isotypes: GAZI, ANK, Bozok Univ. Biology Dept. Herbarium).



**Fig. 1.** *Gypsophila yusufeliensis* (from the holotype). — **A:** Habit. — **B:** Calyx. — **C:** Petal. — **D:** Capsule. — **E:** Seed.

Caespitose perennial, with a woody rhizome, all glabrous. Stems slender, numerous, erect-ascending, (15–)25–40(–50) cm, 0.5–1 mm diameter below. Leaves linear, (1.5–)3–5(–6.5) × 0.6–1 mm, ± acute, green. Inflorescence a very lax corymb, many-flowered. Bracts linear-lanceolate, 1.5–3(–6) mm, scarious at margins. Pedicels (3–)5–10(–20) mm. Calyx campanulate, 2.5–3 mm, divided to 1/3–1/2; teeth triangular-lanceolate, 1.2–1.5 mm, acute to acuminate, broadly scarious at margins. Petals whitish, ± panduriform, 3.5–4 × 1.8–2 mm, ± emarginate-retuse. Capsule subglobose-ovoid, 1.5–2 × 1.8–2 mm, included in the calyx. Seeds black-brown to blackish, reniform to subglobular, 4–8 in each capsule, 0.9–1.2 × 0.8–1 mm, with serrulate papillae.

**HABITAT AND PHENOLOGY.** *Gypsophila yusufeliensis* grows on siliceous rock crevices at 1250–1260 m a.s.l. The habitat is dry rocky slopes in a damaged oak forest. It flowers in July–August and fruits in August.

*Gypsophila yusufeliensis* is closely related to *G. patrinii*. It differs from *G. patrinii* mainly by its narrower leaves (0.6–1 mm broad) and shorter petals, 3–3.5 mm long, with an emarginate-retuse apex. More differentiating characters are given in Table 1.

### Acknowledgements

I thank the curator of the herbarium G (Laurent Gautier) for the photo of *Gypsophila patrinii*.

**Table 1.** Morphological comparison of *Gypsophila yusufeliensis* and *G. patrinii*.

Characters	<i>G. yusufeliensis</i>	<i>G. patrinii</i>
Plant	caespitose	not caespitose
Stem	0.5–1 mm diameter below	1.5–2.5 mm diameter below
Leaves	0.6–1 mm broad	5 mm broad
Inflorescence	very lax corymb	lax corymb
Bracts	1.5–3(–6) mm long	1.5–2.5 mm long
Calyx	2–2.5 mm long	2.5–4 mm long
Petals	3–3.5 mm long, apex $\pm$ emarginate-retuse	5–10 mm long, apex obtuse
Petals	not more than 3/2 as long as calyx	two to four times as long as calyx
Capsule	1.5–2 mm long, immersed in calyx	ca. 4 mm long, usually exserted
Ovary	4–8-ovuled	12–16-ovuled

## References

- Ataslar, E. 2000: *Gypsophila* L. — In: Güner, A., Özhatay, N., Ekim, T. & Başer, K. H. C. (eds.), *Flora of Turkey and the East Aegean Islands*, Suppl. 2, 11: 49–50. Edinburgh Univ. Press, Edinburgh.
- Ataslar, E. & Ocağ, A. 2005: *Gypsophila osmangaziensis* (Caryophyllaceae), a new species from Central Anatolia, Turkey. — *Annales Botanici Fennici* 42: 57–60.
- Barkoudah, Y. I. 1962: A revision of *Gypsophila*, *Bolanthus*, *Ankyropetalum* and *Phryna*. — *Wentia* 9:1–203.
- Barkoudah, Y. I., Chater, A. O. & Akeroyd, J. R. 1964: *Gypsophila* L. — In: Tutin, T. G., Heywood, V. H., Burges, N. A., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.), *Flora Europaea*, vol. 1: 219–222. Cambridge University Press, Cambridge.
- Bittrich, V. 1993: Caryophyllaceae. — In: Kubitzki, K., Rohwer, J. & Bittrich, V. (eds.), *The families and genera of vascular plants*, vol. 2: 230–231. Springer Verlag, Berlin.
- Bojňanský, V. & Fargašová, A. 2007: *Atlas of seeds and fruits of Central and East-European Flora: The Carpathian Mountains Region*. — Springer, Dordrecht.
- Davis, P. H., Tan, K. & Mill, R. R. 1988: *Flora of Turkey and the East Aegean Islands* Suppl. 1, 10: 73–81. — Edinburgh University Press, Edinburgh.
- Hüber-Morath, A. 1967: *Gypsophila* L. — In: Davis, P. H. (ed.), *Flora of Turkey and the East Aegean Islands*, vol. 2: 149–171. Edinburgh University Press, Edinburgh.
- Rechinger, K. H. 1964: *Gypsophila* L. — In: Rechinger, K. H. (ed.), *Flora of lowland Iraq*: 241–243. J. Cramer, Weinheim.
- Rechinger, K. H. 1988: *Gypsophila* L. — In: Rechinger, K. H. (ed.), *Flora Iranica*, vol. 163: 206–246. Akademische Druck- und Verlagsanstalt, Graz.
- Shishkin, B. K. 1970: *Gypsophila* L. — In: Komarov, V. L. (ed.), *Flora of the U.S.S.R.*, vol. 6: 556–591. Israel Program for Scientific Translations, Jerusalem.
- Zohary, M. 1966: *Gypsophila* L. — In: Zohary, M. (ed.), *Flora Palaestina*, vol. 1 (text): 100–102. Israel Academy of Sciences and Humanities, Jerusalem.