First record of *Gypsophila elegans* (Caryophyllaceae) in Tunisia and typification of the name *G. pilosa* published by Hudson on a plant cultivated in the Chelsea Garden (London, U.K.)

Ridha El Mokni¹,², Duilio Iamonico*³
¹Department of Pharmaceutical Sciences ‘A’, University of Monastir, Avenue Avicenna, TN-5000 Monastir, Tunisia; ²Department of Forestry, University of Carthage, TN-2080 Ariana, Tunisia; ³Department of Environmental Biology, University of Rome Sapienza, 00185 Rome, Italy

Corresponding author: duilio.iamonico@uniroma1.it

This pdf constitutes the Version of Record published on 28th December 2023

Abstract

*Gypsophila elegans*, an ornamental plant native to Asia and Europe, is newly reported as casual alien new to the Tunisian flora, representing also the fifth record to African continent. A population including several scattered individuals was found growing on the edge of a public garden in central eastern Tunisia in 2020 and again in 2023. Description, distribution in Tunisia, phenology and original photographs are provided, as well as a diagnostic key of the Tunisian species. Moreover, the name *G. pilosa*, published by W. Hudson on the basis of plants cultivated in Chelsea Garden in 1767, is here lectotypified on a specimen housed at BM.

Keywords: Africa; lectotypification; nomenclature; William Hudson.

Introduction

*Gypsophila* L. (Caryophyllaceae Juss.) is a genus comprising 145–155 species native to Mediterranean area, Eurasia, South Australia and New Zealand, with its centre of diversity in the Irano-Turanian region. Various species are alien (often used as ornamental plants; see Ahroni *et al.*, 1997) in the Americas, central eastern and southern Africa, south Asia and Japan (Armağan, 2016; Barakudah, 1962; Davis, 1965; Williams, 1989; POWO, 2023a). Although no species of *Gypsophila* is native to Britain and Ireland, several taxa have been reported as garden escapes (Stace, 2019).

The Tunisian flora currently includes two *Gypsophila* species, i.e. *G. pilosa* Huds. and *G. vaccaria* (L.) Sm. (see Pottier-Alapêtite, 1979, pp.135–136; Le Floch *et al.*, 2010, p.162; Dobignard & Chatelain, 2011, p.217; Marhold, 2011+; GBIF, 2023b; POWO, 2023b, 2023c). As a contribution to improving and updating knowledge of Caryophyllales in Tunisia and North Africa (see e.g., El Mokni & Iamonico, 2019; El Mokni & Debruille, 2021; El Mokni & Verloove,
we here present a note dealing with the first report of *G. elegans* at national level and the fifth one to the whole African continent. A diagnostic key of the *Gypsophila* species occurring in Tunisia is also provided, as well as the typification of the Hudson name *Gypsophila pilosa*.

**Material and methods**

This research is based on field surveys, analysis of relevant literature, and examination of specimens preserved at the herbaria BM, LE, and RO (acronyms follow Thiers, 2023 [continuously updated]). Collected specimens are deposited at the personal herbarium of one of the authors (REM) housed in the Herbarium of Monastir University (not listed in *Index Herbariorum*), as well as in RO. The articles cited throughout the text follow the *Shenzen Code* (Turland *et al.*, 2018).

**Results and discussion**

New finding of *Gypsophila elegans* in Tunisia

A population of about 10 individuals, covering an area of about 100 m$^2$, was found on the edge of roadsides in Monastir city (north-eastern Tunisia) in April 2020. Further field investigations allowed us to find this population again in March 2023. Associated species (ruderals) are: *Lepidium didymum* L., *Lysimachia arvensis* (L.) U.Manns & Anderb., *Sisymbrium irio* L., *Ochlopoa infirma* (Kunth) H. Scholz, *Spergularia bocconei* (Scheele) Graebn., *Stellaria media* (L.) Cirillo subsp. *media*, *Stellaria neglecta* (Lej.) Weihe, *Stellaria pallida* (Dumort.) Piré, and *Urtica urens* L.

*Gypsophila elegans* is currently recorded in Africa in Morocco, Libya (Márquez-García 2009, p.70; Marhold, 2011+), Eritrea and Tanzania (Turrill, 1956; Edwards *et al.*, 2002; POWO, 2023b). As a consequence, our finding represents not only the first one for the Tunisian flora, but also the third one for north Africa and the fifth one for the whole of Africa. Based on the current concept (see e.g., Pyšek *et al.*, 2002; Richardson & Pyšek, 2006), we here consider *Gypsophila elegans* as a casual alien new to the allochthonous flora of Tunisia.

Typification of the name *Gypsophila pilosa*

*Gypsophila pilosa* was validly published by Hudson (1767, p.252) who provided a short diagnosis only ("Gypsophila pilosa, foliis lanceolatis trinervis amplexicaulis, caule piloso, floribus solitariis, pedunculis filiformibus longissimis"). On the basis of the title of Hudson’s work ("A catalogue of the fifty plants from Chelsea garden, presented to the Royal Society by the worshipful company of apothecaries, for the Year 1767, pursuant to the direction of Sir Hans Sloane, Bart. Med. Reg. et. Soc. Reg. nuper Proses"), it is clear that the author described *G. pilosa* using a plant cultivated in the Chelsea Garden (London, Great Britain). In fact, Hudson’s herbarium and type are preserved at BM (HUH-Index of Botanists, 2013-onward).

We traced one specimen at BM (barcode BM000572719) bearing a terminal part of a plant with leaves and flowers collected in 1765 at the Chelsea
Physick Garden. This specimen is part of the original material for the name *G. pilosa*, morphologically matches Hudson’s diagnosis, and it is here designated as the lectotype.

**Taxonomic treatment of the *Gypsophila* species occurring in Africa**

*Gypsophila elegans* M.Bieb., Fl. Taur.-Caucas. 1: 319. 1808 var. *elegans*. – TYPE (neotype designated by Iamonico, 2020: 298, Fig. 1): Caucasus, Terek ad Kafbek, *s.d.*, Bieberstein *s.n. (LE01042983)*. — An image of the lectotype is available at [https://en.herbariumle.ru/?t=occ&id=42625&rid=image_0276496](https://en.herbariumle.ru/?t=occ&id=42625&rid=image_0276496)

---

**Figure 1. *Gypsophila elegans* in Tunisia. A. Habit in habitat during blooming period; B. inflorescence; C. flower. Photographs by R. El Mokni (A & C in 28.04.2020; B in 8.03.2023).**
Description.
Plants annual, glabrous; stems erect up to 60 cm, simple or few-branched proximally; leaves cauline, proximal leaves with clasping bases, gradually transitional to distal leaves with ± rounded bases; blade linear-lanceolate to narrowly oblong, 1.5–7.0 cm × (1–)3–16 mm, apex obtuse to acute in proximal leaves, acute in distal leaves, glaucous, with 1–3 dark veins; inflorescence in combiriform cymes, lax; flowers with lanceolate, obtuse or mucronate lobes, pedicels (10–)12–30(–35) mm, glabrous: calyx 3.0–3.7(–5.0) mm, cleft up to 2/5–1/2 of its length with lanceolate, obtuse or mucronate lobes, petals 2 to 5 times longer than the calyx (i.e. 6.0–15.0 mm long), white, occasionally with pinkish or with purple veins (rarely pink), slightly emarginate; capsules globose; seed coats coarsely tuberculate.

Notes
Barkoudah (1962, pp.134-135) recognized two varieties under Gypsophila elegans, i.e. var. elegans and var. latipetala Barkoudah which differ from each other by habit [biennial (var. latipetala) vs. annual (var. elegans)], height (50-60 cm vs. 10–40 cm), and ratio petals/sepals (up to 2 vs. 2–3). Tunisian plants are identifiable as the var. elegans.

Iconography
Fiori (1921, p. 149), image available at https://www.biodiversitylibrary.org/item/202245#page/165/mode/1up).

Phenology in Tunisia
Flowering and fruiting times March to April (sometimes up to May).

Chromosome number
2n = 34 (Gagnidze et al., 2006).

Distribution and habitat
Gypsophila elegans is native to an area ranging from south Ukraine to western and north Iran, whereas it is alien (used as an ornamental plant) in most European countries, north Africa (Morocco, Tunisia, and Lybia), central-western Africa (Eritrea and Tanzania), Asia (Pakistan and western China), and the Americas (mainly in the north) (see e.g., Barkoudah & Chater 1964; Sánchez, 2000; Dequan & Turland 2001; Vizgirdas & King-Vizgirdas 2005; GBIF 2023a; POWO 2023a).

Selected specimen examined
Tunisia. Monastir, Monastir-city, 28 April 2020, El Mokni s.n. (Herb. El Mokni!, RO!), ibidem, 02-08 March 2023, El Mokni s.n. (Herb. El Mokni!).

Gypsophila pilosa Huds., Philos. Trans. 56: 252. 1767. – TYPE (lectotype designated here): United Kingdom, England, Chelsea Garden, 1765, s.c. 2160 (BM000572719!, Fig. 2).
**Distribution and habitat**
Native to north Africa (Tunisia and Libya), eastern and central Asia and western Himalaya; alien in Morocco, Spain, and north-eastern U.S.A. (POWO, 2023d).

**Figure 2. Lectotype of the name Gypsophila pilosa (BM000572719!)**

Lewis 1952: 342): Herb. Clifford: 166, Saponaria 2 (BM000628472!). — An image of the lectotype is available at https://data.nhm.ac.uk/object/3c12a62ae92-42f5-8368-4357472d936b/1678924800000


Distribution and habitat
Native to Macaronesia, central and eastern Europe, Mediterranean area and central Himalaya; alien in north Europe, Americas, central-eastern and southern Africa, and central to eastern Asia (POWO, 2023c).

Diagnostic key to taxa of the genus Gypsophila in Tunisia

1. Plant hairy ................................................................. G. pilosa Huds. var. pilosa
   - Plant glabrous .......................................................... 2

2. Calyx 2.5–5 mm, campanulate, incised to the middle; lobes glabrous, ovate, rotundate; scarious intervals twice broader than the green bands; apex obtuse or mucronate; petals white (rarely pink), occasionally with (pinkish) purple veins, 6–15 mm long ......................... G. elegans var. elegans
   - Calyx 9–17 mm, with 5 prominent, usually green, winged angles or ridges, each ridge with strong, cordlike marginal vein; petals usually pink, 14–23 (–25) mm long .................................................. G. vaccaria

Acknowledgements
Thanks are due to M. Carine and J. Yesilyurt (Herbarium BM) for permission to reproduce the image of the lectotype of Gypsophila pilosa.

References


GBIF 2023b. *Global Biodiversity Information Facility. Gypsophila vaccaria* (L.) Sm. [accessed 12 May 2023]. Available at: [https://www.gbif.org/fr/species/8091998](https://www.gbif.org/fr/species/8091998)


Iamonico, D. & El Mokni, R. 2018. *Amaranthus tunetanus* (Amaranthaceae), a new species from Tunisia and a diagnostic key to the North African taxa in


Copyright retained by author(s). Published by BSBI under the terms of the *Creative Commons Attribution 4.0 International Public License*.

ISSN: 2632-4970

https://doi.org/10.33928/bib.2023.05.267