

GYPSOPHILA HETEROPODA (CARYOPHYLLACEAE), A NEW RECORD FOR THE FLORA OF IRAN

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Gypsophila heteropoda Freyn, is reported as a new record for the flora of Iran from Khorassan Province in NE Iran. This species is compared morphologically with the closest species and its distribution map in Iran is presented.

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Key words: Caryophyllaceae; *Gypsophila*; new record; Khorasan; Iran

گزارش جدیدی از گونه *Gypsophila heteropoda* از میخکیان برای فلور ایران

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گونه *Gypsophila heteropoda* از میخکیان به عنوان گزارش جدیدی برای فلور ایران از استان خراسان واقع در شمال شرق ایران گزارش شده است. این گونه از نظر مورفولوژیک با گونه های نزدیک به آن مقایسه شده و نقشه پراکنش آن در ایران نشان داده شده است.

INTRODUCTION

Gypsophila L. as a member of subfamily Caryophylloideae, family Caryophyllaceae is a predominantly Eurasian genus. It is not just among the largest genera of the family, but it is known as one of the most polymorphic ones. The genus *Gypsophila*, which has 126 species worldwide shows distribution in the Irano-Turanian and Mediterranean regions (Williams, 1989; Sumaira et al., 2008; Korkmaz & Özçelik 2011). It occurs in the north-temperate part of the old world, mainly between the latitudes 30° and 60°. However, most *Gypsophila* species are concentrated in very small part of the geographic area of distribution. This part of the area, which may rightly be called the main variation center of the genus, includes Turkey, Caucasia, northern Iraq, and northern Iran (Barkoudah, 1962). Generally, species are mostly found on steppes on dry slopes or sandy soil of temperate Eurasia, East Mediterranean and Irano-Turanian regions, Egypt, Arabia, Somalia. This genus includes 47 species in Flora Iranica area which among them 33 species are recorded from Iran of which 15 are endemics to Iran (Rechinger, 1988).

MATERIALS AND METHODS

Herbarium specimens of the genus *Gypsophila* L., collected from different places of Khorassan were examined and identified by relevant literatures (Komarov, 1970; Rechinger, 1988). All specimens (11 specimens observed) are preserved in Herbarium of Ferdowsi University of Mashhad (FUMH).

RESULTS

New record

Gypsophila heteropoda Freyn, Bull. Herb. Boissier Sér. 2, 3: 865 (1903), fig. 1.

Annual; stems branched from the middle, up to 40 cm high, glabrous, the upper internodes viscid. Leaves 5-35 × 1-5 mm, lanceolate- linear, one-nerved, almost obtuse. Flowers in a loose inflorescence; pedicles 2- 20 mm. Bracts ovate- lanceolate, acute, broadly scarious-margined or totally scarious. Calyx 1.5- 2.5 mm long, campanulate; teeth obtuse, scarious- margined. Petals white, linear-spatulate, emarginate, one and a half times length of calyx. Ovary 14-18-ovuled. Capsule longer than calyx, up to 1.5 times. Seeds ± 0.7 mm in diameter, smooth.



Fig. 1. Image of herbarium specimen of *Gypsophila heteropoda*.



Map 1. Distribution map of *Gypsophila heteropoda*.

Studied specimens: Khorassan province: W Bojnourd, 2-3 km from Soolgerd towards Chalbash, the margin of Qorkhod Protected Area, 1200 m, Memariani & Arjmandi 43752 [FUMH]; SE Qayen, Mohammadabad, 1050 m, Joharchi & Zangooei 17387 [FUMH, TARI]; S Sarakhs, between Dowlatabad and Nowroozabad, 300 m. Joharchi & Zangooei 16099 [FUMH].

The closest species to *G. heteropoda* is *G. elegans* M. Bieb. Although these two species has been confused with each other but the most important character that makes them separated is the color of petals. The first one has white petals and in the second one, petals are pink with purple nerves. Other difference between them is type of bracts. In *G. heteropoda*, bracts are lanceolate to linear but in *G. elegans* are ovate.

Geographical distribution: It grows on sandy slopes and consolidated sands of Turkey, Iraq, Turkmenistan, Republic of Azerbaijan, Armenia, Afghanistan and Kazakhstan and Iran (Map 1). Since the area of occurrence of this species is not limited, it is not referred as an endangered or vulnerable species.

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REFERENCES

- Barkoudah, YI. 1962: A revision of *Bolanthus*, *Ankyropetalum* and *Phryna* vol. 9: 1-203.- Wentia.
- Coode, MJE. 1967: Caryophyllaceae. Flora of Turkey vol. 2: 149- 179.-Edinburg at the University Press.
- Komarov, V.L. 1970: "Flora of the U.S.S.R", Caryophyllaceae, vol. 6: 556- 591.- translated from Russian, Jerusalem 1970.
- Korkmaz, M & Ozelik, H 2011: Economic importances of *Gypsophila* L., *Ankyropetalum* Fenzl and *Saponaria* L. (Caryophyllaceae) taxa of Turkey vol. 10: 9533-9541. - African Journal of Biotechnology.
- Rechinger, K. H. 1988: *Gypsophila* L. - In: Rechinger, K. H. (ed.), Flora Iranica vol. 163: 206-246.- Akademische Druck und Verlagsanstalt, Graz.
- Sumaira, S., Mir AK., Akbar AM & Asma J., 2008: Pollen morphology of the Genus *Silene* (*Silene*-Caryophyllaceae) from Pakistan vol. 1: 74-85.- Biological Diversity and Conservation (Biodicon).
- Williams FN. 1989: Revision of the specific forms of the Genus *Gypsophila* L. vol. 27: 321-329.- Journal of Botany.