

Reseda globulosa (Resedaceae): a new record for the flora of Turkey

Zeki AYTAÇ*, Hayri DUMAN

Gazi University, Faculty of Science and Arts, Department of Biology, 06500 Ankara - TURKEY

Received: 29.05.2009

Accepted: 05.02.2010

Abstract: *Reseda globulosa* Fisch. & C.A.Mey. (Resedaceae) is reported as a new record for Turkish flora. It was identified using the collected specimens and Flora Palaestina. The description, illustration, and distribution of the species are given.

Key words: *Reseda*, *Resedaceae*, new record, flora, Turkey

Türkiye için yeni bir kayıt: *Reseda globulosa* (Resedaceae)

Özet: *Reseda globulosa* Fisch. & C.A.Mey. (Resedaceae) Türkiye Florası için yeni bir kayıt olarak verilmektedir. Bitki tanımı toplanan örnekler ve Flora Palaestina'ya göre yapılmıştır. Türün tanımı, şekli ve dağılımı verilmiştir.

Anahtar sözcükler: *Reseda*, *Resedaceae*, yeni kayıt, flora, Türkiye

While the family Resedaceae is represented by 6 genera and 75 species mainly in the temperate regions of the Old World (Mediterranean regions) (Abdallah & de Wit, 1978; Heywood 1993), only 1 genus (*Reseda* L.) consisting of 14 species, 18 intraspecific taxa (1 subspecies and 3 varieties) is found in Turkey (Coode, 1965; Davis, 1988; Özhatay, 2000; Karavelioğulları 2006). Seven taxa of this genus are endemics for Turkey (Ekim, 2000).

The authors carried out extensive field floristic studies in the north-east part of Turkey, collected some *Reseda* L. specimens from Yusufeli to Olur (Erzurum) road (Artvin district), on calcareous rocks,

in Artvin province. The flora of this part of Turkey is particularly interesting as it is characterized with Mediterranean climate although it is located in the Euro-Siberian region.

The collected specimens did not match any of the species included in the taxonomic accounts of the Resedaceae for the flora of Turkey (Coode 1965; Davis, 1988; Özhatay, 2000, 2009; Karavelioğulları 2006, Kamorov 1970). Collected materials were identified as *Reseda globulosa* using Flora Palaestina (Zohary 1966). This identification was confirmed by comparison with herbarium specimen in E.

* E-mail: zaytac@gazi.edu.tr

Reseda globulosa was described and illustrated mainly using the collected specimens and Flora Palaestina (Zohary, 1966), since there is no information about it in the Turkish literature.

Reseda globulosa Fisch. & C.A.Mey., 1837 (Figure).

Annual, 20-50 cm. Stem usually decumbent and branching from base, nearly glabrous. Leaves densely arranged at base, tapering at base and usually entire, with somewhat serrulate margin, ternately, rarely 1-2 pinnately divided into linear-oblongate lobes, stem leaves similar. Inflorescence is raceme and elongated in fruit. Bracts 1.5-2 mm, usually persistent. Pedicel 2-3 mm in flower. Calyx persistent, with 6 oblong-lanceolate sepals, membranous often denticulate at margin. Petals 6, cream; the upper longer than sepals, 2-3 partite; the lower shorter, entire, linear. Stamens 10-12, with persistent filaments; filaments glabrous. Fruiting racemes loose. Fruiting pedicels as long as or a little longer than capsule. Capsule broader than long, 3.5-4.5 × 5-7.5 mm, 6-sulcate, apically 3-toothed, disciform, depressed-subglobose. Seeds about 1 mm, reniform, smooth, and yellow to brown, shiny in ripe.

Type: Caucasus, Shirvan, LE.

Fl. & Fr. June & July

New record in Turkey: A8 Yusufeli (Artvin) to Olur (Erzurum) road, 25. km, 550–600 m, 16.vi.2003, on calcareous rocky places, *Duman* (9434) & *Z.Aytaç*.

These specimens are deposited in GAZI, ANK, HUB, ISTE, E & YILDIRIMLI herbaria.

Examination specimen: Caucasus orientalis in saxatilis prope Elizabethpol, *J. Fedoseft*, 1899, in E.

According to Flora Palaestina (Zohary, 1966), calyx often denticulate at margin and flowers subsessile in *Reseda globulosa*, but all our specimens' calyx entire at apex and flowers with 2-3 mm pedicel. Also, the examination specimen in E of *R. globulosa* has entire calyx structure like our specimens and in Flora USSR, not as writing in Flora Palaestina. It is closed to *R. lutea* L. var. *lutea*, but filaments glabrous, not scabrous and capsule globose, not ovoid to oblong.



Figure. *Reseda globulosa*. A- habit, B- fruit.

It is common in Caucasian and Irano-Turanian regions. It can be recollected in different parts of Ir.-Tur. Region in Turkey in the future. But currently, it is only known in one locality in Turkey, so we decided that the recommended IUCN Threat Category should be changed to Endangered (EN), because the estimated area of occupancy is less than one km² (IUCN, 2001), and it is under the threat of being flooded in a dam.

Acknowledgements

We would like to thank Seçil Soydan for the drawing of the species and ENCON (Environmental Consultancy Co.) for financial support during our field study.

References

- Abdallah & de Wit HCD (1978). The *Resedaceae*: A taxonomical Revision of the Family, 1-13. Netherlands.
- Coode MJE (1965). *Reseda* L. In: Davis PH (ed.) *Flora of Turkey and the East Aegean Islands*, 1: 498-506. Edinburgh: Edinburgh University Press.
- Davis PH, RR Mill & Tan K (1988). *Flora of Turkey and the East Aegean Islands*, 10: 60-61. Edinburgh: Edinburgh University Press.
- Ekim T , Koyuncu M, Vural M, Duman H, Aytaç Z & Adıgüzel N (2000). *Türkiye Bitkileri Kırmızı Kitabı*, Barışcan Ofset, Ankara.
- Heywood VH (1993). *Flowering Plants of the World*, 27-35, New York: Oxford University Press.
- IUCN (2001). *IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission*. IUCN, Gland, Switzerland and Cambridge, UK.
- Komarov VL (ed.) (1970). *Flora of the USSR*, Vol. VIII. Israel Program for Scientific Translations, Jerusalem.
- Karavelioğulları FA, Vural M & Polat, H (2006). Two new taxa from Central Anatolia Turkey. *Isr J Plant Sci* 54 (2): 105-111.
- Özhatay N (2000). *Reseda* L. In: Güner A, Özhatay N, Ekim T & Başer KHC (eds.) *Flora of Turkey and the East Aegean Islands* (Suppl. 2), pp. 41-42, Edinburgh: Edinburgh University Press.
- Özhatay N (2009). Check-list of Additional Taxa to the Supplement Flora of Turkey IV. *Turk J Bot* 33: 191-226.
- Zohary (1966). *Flora Palaestina*, vol. 1: 331-336, Israel Jerusalem Academic Press.