## Centaurea marashica (Asteraceae), a new species from Turkey

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Centaurea marashica E. Uzunhisarcıklı, M. Tekşen and E. Doğan sp. nova (sect. Pseudoseridia, Asteraceae) is described from South Anatolia, Turkey, and illustrated. It is morphologically similar to C. cheirolepidoides and C. isaurica, from which it differs mainly in the characters of leaves, appendages and pappus.

Key words: Centaurea, new species, taxonomy

Turkey is one of the main centres of diversity for the genus Centaurea (Wagenitz 1986). In Flora of Turkey and The East Aegean Islands, 172 species (plus six imperfectly known ones) of Centaurea were accepted (Wagenitz 1975). Since then, eight new species have been described from Turkey (Davis et al. 1988, Wagenitz & Hellwig 1996, Wagenitz et al. 1998, Güner 2000, Duran & Duman 2002, Türkoğlu et al. 2003) and one has been added as a new record for Turkey (Davis et al. 1988). In this paper, we describe a new species, after which the total number of Centaurea species known from Turkey rises to 189. In addition C. isaurica, which has been treated as a "species imperfectly known", is reported from the type locality and elsewhere. So, the flower, achene and pappus characters which were reported as unknown in Flora of Turkey have been clarified by Ertuğrul et al. (2004). Centaurea cheirolepidioides, which was previously known only from the type locality, has recently been found in different localities (Duman et al. 2000).

The specimens of the new species were collected in Göksun district, in the northwest of Kahramanmaraş province. These were compared with many specimens of *C. cheirolepidoides* (GAZI: *H. Duman 6714*, *Z. Aytaç 7831*; HUB: no: 30562) and *C. isaurica* (GAZI: *H. Duman 5586*; KNYA: *O. Tugay 1625*, 2180, 2835, 2935, *Ertuğrul 2311*).

**Centaurea marashica** E. Uzunhisarcıklı, M. Tekşen & E. Doğan, *sp. nova* (Figs. 1 and 2)

Affinis C. isauricae, sed differt foliis inferioribus angustis lanceolatis (non lyratis), spinulis appendicum 2–5 mm (non 5–10 mm), pappo scabro (non barbellato); affinis C. cheirolepidoide, differt spinulis foliis mediis et superioribus 2.5–6 mm (non 0.5–2 mm), ciliis appendicum 2–4 mm (non 1–1.5 mm), pappo brunneo (non niveo-luteo).

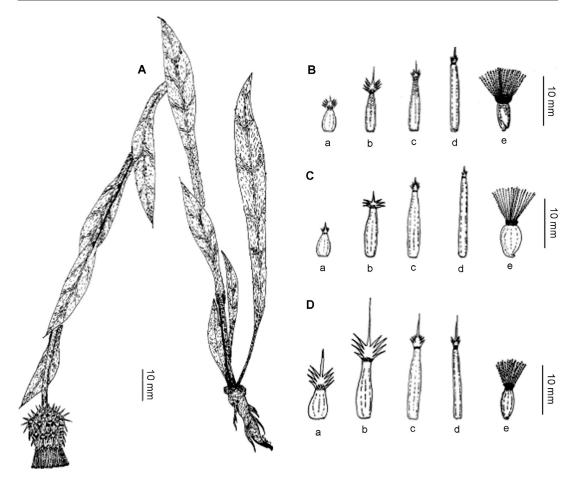


Fig. 1. — A: Centaurea marashica, habit (from holotype). — B: Centaurea marashica. — C: C. cheirolepidoides. — D: C. isaurica. (a) Outer phyllaries; (b-c) median phyllaries; (d) inner phyllaries; (e) achenes.

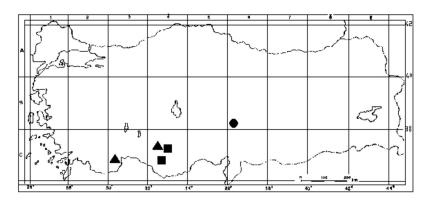


Fig. 2. Geographic distribution of *Centaurea marashica* (●), *C. cheirolepidoides* (▲), and *C. isaurica* (■).

HOLOTYPE: Turkey. B6 Kahramanmaraş: Göksun, Armut Mountain, Kartallık Kayası, 1700 m, rocky slopes, 23.VII.2003 *M. E. Uzunhisarcıklı 1901 & M. Tekşen, E. Doğan* (GAZI; isotypes ANK, HUB).

Perennial herb with a woody rootstock.

Stems erect, striate, floccose-tomentose, 45–65 cm long and 3–5 mm diameter, usually simple, sometimes 1–3 one-headed branches in upper part. Basal leaves floccose-tomentose, narrowly lanceolate, petiolate, petiole up to 25–30 mm,

Character	C. marashica	C. cheirolepidoides	C. isaurica
Lower stem leaves	narrowly lanceolate, margin sparsely toothed	lanceolate, with one pair of coarse teeth in lower part	lyrate, with a lanceolate terminal segment and 2– 4 pairs of lanceolate lateral segments
Median and upper leaves			
Length of decurrent	2.5–5 cm	2-4 cm	0.4-1 cm
Spinule of median			
and upper leaves	2.5–6 mm	0.5–2 mm	2–4 mm
Appendage			
Lower	3–5 × 3.5–6 mm	$1-2 \times 0.5-2 \text{ mm}$	6–7 × 4–6 mm
Median	$3.5-6.5 \times 5-8 \text{ mm}$	$1-3 \times 1-3 \text{ mm}$	7–12 × 7–8 mm
Inner	2–4 × 1.5–2 mm	$0.5-1 \times 0.2-1 \text{ mm}$	6 × 1.5–2 mm
Spinule	2–5 mm	1–2 mm	5–10 mm
Cilia	2–4 mm	1–1.5 mm	3–5 mm
Colour	straw-coloured and brown at base	blackish-brown	straw-coloured
Pappus	scabrous	scabrous	barbellate
Colour	brownish	whitish-yellow	whitish-yellow
Outer series	6–7 mm	7–8 mm	3–5 mm

Table 1. A morphological comparison of Centaurea marashica with C. cheirolepidoides and C. isaurica.

margins sparsely toothed (0.5-1 mm), acute, attenuate,  $15-23 \times 0.4-1.5$  cm (incl. petiole); median and upper leaves floccose-tomentose, elliptic-lanceolate, distinctly decurrent, 2.5-5 cm, margins entire, acute,  $2-17 \times 0.8-3$  cm, median and upper leaves with 2.5-6 mm long spinule; leaves decreasing to capitula. Capitula 1-3 and solitary at end of branches, involucre globose or nearly cylindrical, 15-22 × 10-24 mm. Phyllaries imbricate, glabrous. Lower phyllaries ovate,  $4-5 \times 3$  mm, appendage  $3-5 \times 3.5-6$ mm; median phyllaries lanceolate,  $12-14 \times 4-5$ mm, margins with 1 mm wide hyaline-membranous edge, appendage  $3.5-6.5 \times 5-8$  mm; inner phyllaries linear-lanceolate, 14-15 × 3 mm, margins with 1 mm wide hyaline-membranous edge, appendage 2-4 × 1.5-2 mm. Appendages not totally concealing basal part of phyllaries, not decurrent, triangular, straw-coloured and brown at base, with 3-5 cilia on each side, cilia 2-4 mm long, ending in a slender, 2-5 mm long spinule. Florets yellow, marginal not radiant; corolla-tube glabrous, 11-12 mm long, lobes  $4-5 \times 0.5$  mm, linear, with 5 brown stripes along corolla-tube; filaments 5-6 mm long, glabrous; anthers  $3-4 \times 1-1.5$  mm; style 10-11 mm long. Achenes oblong, straw-coloured, glabrous, 4-5 × 1.5–2 mm; pappus biseriate, inner series 1.5–2 mm long, outer series 6-7 mm long, scabrous, brownish. Flowering June to August.

DISTRIBUTION AND HABITAT ECOLOGY: Endemic in the transition territory of South Anatolia, Irano-Turanian element. Occurs on rocky slopes at 1600–1800 m. This species grows with Aethionema coridifolium, Campanula stricta var. stricta, Cicerbita mulgedioides, Helichrysum arenarium subsp. aucheri, and Hesperis pendula.

*Centaurea marashica* is morphologically close to *C. cheirolepidoides* and *C. isaurica*. The three species are compared in Table 1.

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## References

Davis, P. H., Mill, R. R. & Tan, K. (eds.) 1988: Centaurea L.
In: Flora of Turkey and the East Aegean Islands 10: 166–169. Edinburgh Univ. Press, Edinburgh.

Duman, H., Aytaç, Z. & Karavelioğulları, F. 2000: Gevne vadisi florası. — Kırsal Çevre ve Ormancılık Sorunları Araştırma Derneği 9: 24.

Duran, A. & Duman, H. 2002: Two new species of *Centau-rea* (Asteraceae) from Turkey. — *Ann. Bot. Fennici* 39: 43-48

Ertuğrul, K., Uysal, T., Garcia-Jacas, N., Susanna, A. & Garnatje, T. 2004: The systematic position of *Centaurea* 

- ensiformis and Centaurea isaurica from Turkey and the evolution of some characters in Centaurea. Israel Journal of Plant Science 52: 257–263.
- Güner, A. 2000: Centaurea L. In: Güner, A., Özhatay, N., Ekim, T. & Başer, K. H. C. (eds.), Flora of Turkey and the East Aegean Islands 11: 163–164. Edinburgh Univ. Press, Edinburgh.
- Türkoğlu, I., Akan, H. & Civelek, Ş. 2003: A new species of *Centaurea* (Asteraceae: sect. *Psephelloideae*) from Turkey. — *Bot. J. Linn. Soc.* 143: 207–212.
- Wagenitz, G. 1974: Materials for a Flora of Turkey XXX: Compositae. — Notes Royal Bot. Garden Edinburgh 33: 217–231.
- Wagenitz, G. 1975: *Centaurea* L. In: Davis, P. H. (ed.), *Flora of Turkey and the East Aegean Islands* 5: 465–585. Edinburgh Univ. Press, Edinburgh.
- Wagenitz, G. 1986: Centaurea in South-West Asia: patterns of distribution and diversity. — Proc. Royal Soc. Edinburgh 89B: 11–21.
- Wagenitz, G. & Hellwig, F. H. 1996: Eine neue und eine verschollene Centaurea-Art ausder Turkei und eine neue Volutaria-Art (Compositae-Cardueae). — Ann. Naturhist. Mus. Wien 98B: 175–181.
- Wagenitz, G., Ertuğrul, K. & Dural, H. 1998: A new species of *Centaurea* sect. *Psephelloideae* (Compositae) from SW Turkey. — *Willdenowia* 28: 157–161.