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## **A new name in *Centaurea* (Asteraceae, Cardueae) from Turkey**

Authors: Oreizi, Elaheh, Negaresh, Kazem, and Rahiminejad, Mohammad Reza

Source: *Candollea*, 72(2) : 319-322

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: <https://doi.org/10.15553/c2017v722a7>

# A new name in *Centaurea* (Asteraceae, Cardueae) from Turkey

Elaheh Oreizi, Kazem Negaresh & Mohammad Reza Rahiminejad

## Abstract

OREIZI, E., K. NEGARESH & M.R. RAHIMINEJAD (2017). A new name in *Centaurea* (Asteraceae, Cardueae) from Turkey. *Candollea* 72: 319-322. In English, English abstract. DOI: <http://dx.doi.org/10.15553/c2017v722a7>

*Centaurea zaferii* Negaresh is proposed as a new name for *Centaurea foliosa* Boiss. & Kotschy published by Boissier in 1875, a later homonym of *Centaurea foliosa* Gand. published by Gandoger in 1873. The description of *Centaurea zaferii* is amended with characters of mature flowers and achenes. *Centaurea zaferii* is morphologically similar to *Centaurea charrelii* Halácsy & Dörfler and a discussion of their diagnostic characters is presented. In addition, the geographical distribution and habitat of *Centaurea zaferii* are presented.

## Keywords

ASTERACEAE – Cardueae – *Centaurea* – Nomenclature – Taxonomy – Turkey

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Addresses of the authors:

EO, MRR: Department of Biology, University of Isfahan, Isfahan 81746-73441, Iran. E-mail: [mrrsci@gmail.com](mailto:mrrsci@gmail.com)

KN: Department of Horticulture, Faculty of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Mollasani, Ahvaz, Iran.

Submitted on January 12, 2017. Accepted on June 30, 2017.

First published online on July 20, 2017.

ISSN : 0373-2967 – Online ISSN: 2235-3658 – *Candollea* 72(2): 319-322 (2017) © CONSERVATOIRE ET JARDIN BOTANIQUES DE GENÈVE 2017

## Introduction

*Centaurea* L. s.l. with c. 600 species is among the largest genera in Asteraceae (HELLWIG, 2004). This genus of 40 sections occurs mainly in the Mediterranean and Irano-Turanian regions (LÓPEZ et al., 2011; NEGARESH & RAHIMINEJAD, 2014). Species of *Centaurea* sect. *Cynaroides* Boiss. are characterized by a large habit, a capitula arranged in a spike-like or raceme-like inflorescence, and especially by entire hastate leaves (GARCIA-JACAS et al., 2006; NEGARESH & RAHIMINEJAD, 2014, 2016).

In the course of our research on *Centaurea* sect. *Cynaroides* (RANJBAR et al., 2012, 2013; NEGARESH & RAHIMINEJAD, 2014, 2015, 2016; NEGARESH et al., 2014, 2015; RANJBAR & NEGARESH, 2014a, 2014b), we noticed that *Centaurea foliosa* Boiss. & Kotschy (BOISSIER, 1875) is an illegitimate name because it is a later homonym of *C. foliosa* Gand. (GANDOGER, 1873). We therefore proposed here a replacement name for this taxon: *C. zaferii* Negaresh. Recent collections in Hatay Province in southern Turkey of mature capitula compared with collections held at B, C, G, GOET, ISTE, JE, K, P, and W herbaria allows to improve the description of this species that was previously known only from immature capitula by BOISSIER (1875) and WAGENITZ (1975).

Scanned images of Boissier's type collection is available online via the CATALOGUE DES HERBIERS DE GENÈVE (2017).

## Nomenclature and taxonomy

*Centaurea zaferii* Negaresh, **nom. nov.**

= *Centaurea foliosa* Boiss. & Kotschy in Boiss., Fl. Orient. 3: 672. 1875 [non *C. foliosa* Gand.].

**Typus:** TURKEY. **Prov. Hatay:** “in valle Amani occidentalis supra Arsus [Arsuz] prope pagum Ursusa”, c. 150 m, 4.VII.1862, *Kotschy 113* (holo-: G-BOIS [G00150226] images seen; iso-: C [C10007081] image seen, JE [JE00015828] image seen, K [K000794179] image seen, P [P00730189, P00730190] images seen, S [S10-6178] image seen, W0075111, W0075112, W0075110 images seen) (Fig. 1).

*Biennial herb*, 100–150 cm tall. *Stem* erect, branched in the upper third, greenish, c. 6 mm in diam. at base, cylindrical, with thick yellowish striations, ± densely leafy throughout, subglabrous or with sparsely arachnoid trichomes. *Leaves* coriaceous (papyraceous when dry), sparsely covered with arachnoid trichomes, denser along midrib and veins. *Basal and lower cauline leaves* very large 60–77 × 10–15 cm, petiolate, hastate, oblong or oblong-lanceolate, with 1–2 pairs of ± falcate or triangular lobes (4–8 cm long) in lower part, denticulate, truncate at base, obtuse or acute at apex, with prominent and elevated veins on both sides. *Median cauline leaves*

sessile, simple, narrowly oblong or oblong-lanceolate, 10–15 × 3–5 cm, entire, acuminate at apex, decurrent. *Upper cauline leaves* gradually smaller towards apex, sessile, simple, lanceolate, 4–9 × 1.5–2.2 cm, usually longer than capitula, decurrent, entire, acuminate at apex. *Capitula* several, (8–)10–25-cephalous, arranged in a subraceme or racemose-dichasium, 2–3 grouped subsessily at apex of stem and of several short axillary branches. *Involucres* oblong-ovoid, 23–25 × 13–25 mm. *Phyllaries* multi-seriate, greenish-yellow, imbricate, coriaceous. *Appendages* large, totally concealing the phyllaries, chartaceous, not decurrent, straw-coloured, lanceolate, 2–3 mm wide at base (excluding cilia); *cilia* numerous, erect, (8–)12–14 on each side, 1.5–3 mm long; *apical spine* short, 3–5 mm long, slightly longer than the adjacent cilia. *Flowers* yellow; central florets hermaphroditic, 28–30 mm long, corolla 12–13 mm long, 5-lobed, lobes 6–7 mm long, anther tube yellowish, apical appendage broadly rounded, style slightly shorter than corolla in length, stigma bifid, ca. 0.5 mm long; peripheral florets sterile, nearly equal in length than the central ones, numerous (15–20 in each capitulum) and conspicuous, finely dissected, slightly radiant, 4-lobed, limb lobes linear. *Achenes* lanceolate-oblong, c. 4.5–5 × 2–2.5 mm, striate and shiny, brown to dark brown or silver-brown, rounded at apex, glabrous; *insertion areole* lateral, yellowish or light-brown, c. 0.5 mm long. *Pappus* double, persistent, multiseriate, scabrous, brown or dark brown, sometimes dark purple, 5–7 mm long, the bristles of the inner side rows shorter than those of the outer side, c. 1.5 mm long.

*Etymology.* – The specific epithet honors Dr. Zafer Kaya a specialist of the genus *Centaurea* s.l. in Turkey.

*Phenology.* – Flowering from July to August; fruit ripening from July to September.

*Distribution and habitat.* – *Centaurea zaferii* is a very rare endemic to Hatay Province in southern Turkey. It is an Irano-Turanian element (NEGARESH & RAHIMINEJAD, 2016), and grows on rocky slopes, limestone cliffs, gravel slopes, or in forest dominated by *Cupressus sempervirens* L. This species also grows on forest slopes or scattered between *Rosa* L. shrubs, and in the low-montane zone at elevation of c. 150 m. *Centaurea zaferii* is distributed in lower elevation in comparison to the other species of *Centaurea* sect. *Cynaroides*.

*Notes.* – BOISSIER (1875) described *C. foliosa* (= *C. zaferii*) based on an immature specimens and was not able to study the characters of flowers and achenes. New collections from 1994 and 2014 allow to better understand the morphology of this species. *Centaurea zaferii* resembles *C. charrelii* Halácsy & Dörfel by its yellow flowers and the chartaceous, lanceolate appendages of the capitulum (totally concealing the phyllaries). However, *C. zaferii* differs from *C. charrelii* by its taller



Fig. 1. – Details of holotype of *Centaurea zaferii* Negaresh (= *C. foliosa* Boiss. & Kotschy) in G-BOIS. A. Habit; B. Inflorescence; C. basal leaf.

habit (100–150 cm vs 50–70 cm), basal and lower cauline leaves with 1–2 pairs of ± falcate or triangular lobes (4–8 cm long), denticulate (vs undivided, oblong or oblong-lanceolate, margin smooth), capitula in groups of 2–3 arranged subsessily at apex of stem and of several short axillary branches (vs a corymb of 5 to 10 (–15) capitula), involucre 23–25 × 13–25 mm (vs 25–32 × 25–32 mm), appendages 2–3 mm (vs 3–5 mm) wide at base (excluding cilia), peripheral florets equal than the central ones, 4-lobed (vs slightly shorter than the central ones, 5-lobed), achenes c. 4.5–5 mm (vs 5–6 mm) long, and pappus brown or dark brown (vs whitish).

*Centaurea zaferii* is endemic to low elevation (c. 150 m) in Hatay Province in southern Turkey whereas *C. charrelii* grows at higher elevation (c. 500 m) in eastern Greece (Edhessa, Domokos and Macedonia) (CONSTANTINIDIS et al., 2002).

*Specimens examined.* –TURKEY. Hatay: “Höyük Köy, südöstlich Arsuz (Ulucinar), am Bachufer”, c. 150 m, 11.VIII.1994, *Hellwig & Kaya s.n.* (GOET); “Antakya, Kiseciküstleri,” 14.VII.2014, *Bona 102867* (ISTE).

## Acknowledgements

The authors are greatly thankful of the collaborators of the following herbaria: B, C, G, GOET, ISTE, JE, K, P, and W for their contribution during the revision of material and for providing the images of types. We are most grateful to Dr. Mehmet Bona for sending herbarium specimens, two anonymous reviewers and Martin Callmander and Laurent Gautier for their support in bringing this manuscript into publication.

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