

## A NEW SPECIES OF *CENTAUREA* L. (COMPOSITAE) FROM TURKEY

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### Abstract

A new species of the genus *Centaurea* L. (Asteraceae) from Turkey, *C. goeksunense* Aytaç & H. Duman (sect. *Psephelloideae* (Boiss.) Sosn., is described and illustrated. The systematic position and distribution of this new species is presented and discussed.

### Introduction

During studies on the flora of Turkey specimens of the genus *Centaurea* were collected from Göksun (Kahramanmaraş) in 1917. It is a perennial herb with fairly long stems but the material was insufficient to be fully described because of the lack of flowers. Four years later, flowering material was collected from the same location by the second author. The specimens are superficially similar to *C. brevifimbriata* Hub.-Mor. and *C. bornmuelleri* Hauskn. ex Bornm. *C. bornmuelleri* was well known by the authors who collected it before in several localities, but *C. brevifimbriata* has not been studied by them. We examined the type specimen of *C. brevifimbriata* (in E) which is known in two very closed localities in Malatya province and some specimens of *C. bornmuelleri* in GAZI, ANK and E herbaria, one of them mentioned in the Flora of Turkey (Coode & Jones 2252).

After the examination of the related types, and other specimens belonging to allied taxa and checking related references (Wagenitz, 1975, 2000; Davis, Mill, & Kit Tan 1988; Wagenitz, Ertuğrul, & Dural, 1998; Güner, 2000; Duran, & Duman, 2000), we concluded that our specimens represent a new species. The total number of *Centaurea* species known from Turkey is now 188.

*Centaurea goeksunense* Aytaç & H. Duman sp. nov. (Fig. 1 and 2).

Diagnosis: Affinis *C. brevifimbriata* Hub. - Mor. et *C. bornmuelleri* Hausskn. ex Bornm. A. *C. brevifimbriata* foliis basalibus pinnatipartitis cum 4-7 jugis (non plerumque simplicissimis); caulibus longioribus, 70-100 cm, (non 30-70 cm), appendicula ovata (non semicirculari), 1-2 mm ciliata (non 0.5 mm) et in spinulam 1 - 3 mm (haud spinulam parenti) terminanti differt. Ab *C. bornmuelleri* foliis basalibus pinnatipartitis cum 4-7 jugis (non plerumque simplicissimis); appendicula ovata (non semicirculari), 1-2 mm ciliata (non 2-4 mm) et in spinulam 1 - 3 mm (haud spinulam parenti) terminanti recedit.

Perennial herb with sterile rosettes at base. Stems, 70-100 cm, erect, simple or with few branches in lower parts, floccose to becoming glabrous, densely foliate, upper part sparsely leafy or without leaves. Basal leaves withering at flowering - time; lower stem leaves 10-15 x 3-5 cm, pinnatipartite with 4-7 pairs of lanceolate segments, upper segment clearly longer than lateral; middle cauline leaves 3-7 x 0.5-1.5 cm, pinnatipartite with lanceolate lobes; upper cauline leaves 7-15 x 1-1.5 cm, simple, lanceolate to elliptic, shortly petiolate, decreasing to capitula, like bracts, all leaves grey floccose to tomentose.

Capitula 1 (-2) per stem, homogamous, 20-25 x 20-30 mm, ovoid to nearly oblong. Appendages concealing basal part of phyllaries, ovate - lanceolate, with hyaline irregularly 1-2 mm ciliate margins, ending in a slender 1-3 mm long spinule. Flowers pink. Achene 6-7 mm and brownish; pappus 7-10 mm, scabrous, brownish.

Typus: Turkey: C6 Kahramanmaraş: Göksun; Binboga Dagi, 1600 - 1650 m, between Yeşilkent - Göksun, near fields, 25. vi. 2001, Duman 8606. (holo. GAZI, iso. ANK, HUB, E, hb. YILDIRIMLI).

C6 Kahramanmaraş: Göksun; Binboga Dagi, 1600 - 1650 m, between Yeşilkent - Göksun, near field, 9. viii. 1997, Duman 6512, Aytac and Adiguzel, (fruting material) (GAZI); ibid. 15. vii. 2002, A. Karaveliogullari 3381 & S: Çelik (GAZI).

Examined specimens: *C. brevifimbriata*: Turkey B6 Malatya, Darende, Weizenfeld, 15 km, nördlich Darende, 1280 m, 28 Juni 1953, Hub. - Mor. 11935, isotype, E. Darende to Akçadağ, 3500 fit, 19. vi. 1954, Davis 21897, E.

*C. bornmuelleri*: Turkey B3 Eskisehir, c.15 miles from Polatli to Sivrihisar, 800 m, 12. vi. 1965, chalky fields, Coode & Jones 2252, E; Polatli, Ackir mevkii, 840-860 m, 2. vi. 1995, jipsli alanlar, Aytac 6893 & Adiguzel GAZI; ibid. 22. vi. 1993, Duman 4812 & Aytac GAZI; ibid. 4. vi. 1991, Aytac 3822 & Duman, GAZI; B4 Ankara, Şereflikoçhisar - Ankara yolu 10. km, salty places, 900 - 950 m, 5. vi. 2002, Aytac 8374 M. Ekici, GAZI.

The new species is close to *C. brevifimbriata* and *C. bornmuelleri*, but stem is longer than in these two species (over 70 cm, not 30-70 cm). Phyllaries of *Centaurea goeksunense* also differs from both by having a terminal 1-3 mm spinula. The upper parts of the stems of *C. brevifimbriata* and *C. bornmuelleri* are not leafy, while in this new species it is leafy in some cases.

Detail differential characters are given in Table 1.

**Table 1. A comparison of *Centaurea goeksunense*, *C. bornmuelleri* and *C. Brevifimbriata*.**

	<i>Centaurea goeksunense</i>	<i>C. bornmuelleri</i>	<i>C. Brevifimbriata</i>
Stem	70 - 100 cm	35 - 70 cm	35 - 70 cm
Basal leaves	Pinnatipartite with 4 - 7 pairs of lanceolate segments	Usually entire and lanceolate	Usually entire and lanceolate
Upper part of stem	Leafy	Not leafy	Not leafy
Involute	Ovoid, nearly oblong 20 - 25 x 20 - 30mm	Ovoid 20-25 x (12-) 15-25 (27-) mm	Ovoid, (17-) 20-25 x (11-) 15-20 mm
Outer and middle phyllaries of appandages	Ovate, cilia 1-2 mm spinula 1-3 mm	semicircular, cilia (2-) 3-4 mm, spinula absent	Semicircular, cilia 0.5 mm, spinula absent

#### **Distribution and ecology**

South Anatolia. East Mediterranean mountain element. Endemic. It grows in clearings of wheat fields, with *Achillea gonocephala* Boiss. & Bal., *Veronica cinerea* Boiss. & Bal., *Aethionema capitatum* Boiss. & Bal., *Ebenus laguroides* Boiss., *Hippomarathrum boissieri* Reuter & Hausskn. etc., (some of which are endemic), between 1600 - 1650 m altitude. Flowering in June to July, fruit in July to August.



Fig. 1. *Centaurea goeksunense* A- Habit a- Outer phyllary, b- Middle phyllary, c- Inner phyllary, d- Achene. *C. brevifimbriata* e- Outer phyllary, f- Middle phyllary, g- Inner phyllary, h- Achene. *C. borrmuelleri* i- Outer phyllary, j- Middle phyllary, k- Inner phyllary.

The range of this new species is restricted to a single location and it occupies less than 5 km<sup>2</sup> (criterion B2a) area. The number of mature individual specimens being less than 250 (criterion C), (IUCN, 2001). We suggest that it should be placed under the CR (Critically Endangered) category

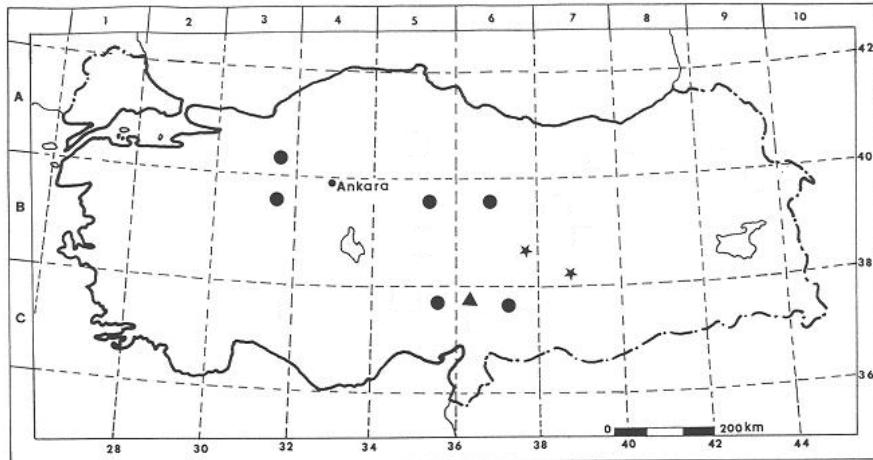


Fig. 2. Distribution of species in Turkey: ▲ *C. goeksunense*, ● *C. bornmuelleri*, ★ *C. brevifimbriata*

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