

## A New Record for the Flora of Turkey: *Cirsium candelabrum* Griseb. (*Cirsium* Sect. *Cirsium*, Asteraceae, Cynareae)

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**Abstract:** *Cirsium candelabrum* Griseb. is reported for the first time from Thrace (Turkey). A description, including 2 photographs of the plant, and a map of its distribution in Turkey are presented.

**Key Words:** Compositae, new record, Thrace

### Türkiye Florası için yeni bir Kayıt: *Cirsium candelabrum* Griseb. (*Cirsium* Sect. *Cirsium*, Asteraceae, Cynareae)

**Özet:** *Cirsium candelabrum* Griseb. türü Trakya'dan (Türkiye) ilk defa kaydedilmiştir. Bu makalede, türün betimi, bitkinin çeşitli kısımlarını gösteren fotoğraflar ve Türkiye'deki yayılış haritası verilmiştir.

**Anahtar Sözcükler:** Compositae, Trakya, yeni kayıt

### Introduction

The genus *Cirsium* Mill. is one of the largest genera in Asteraceae. It contains about 250 species, distributed in Europe, North Africa, eastern, central, and south-west Asia, and North and Central America (Charadze, 1963; Davis & Parris, 1975; Petrak, 1979). In Turkey 58 species (72 taxa) occur, distributed mainly in eastern and north-eastern Anatolia, with the main centre of diversity in the Kaçkar Mountains.

Of the 72 taxa, 24 (33%) are endemic to Turkey. Seven species doubtfully recorded or imperfectly known were included in the *Flora of Turkey* by Davis and Parris (1975). *C. eriophorum* (L.) Scop., one of the doubtfully

recorded taxa, was found in Uludağ, Bursa province (Daşkın et al., 2006).

*Cirsium* spp. found in Turkey are classified in 3 sections: sect. *Epitrachys* DC. (41 spp.), sect. *Cirsium* (16 spp.), and sect. *Cephalonoplos* (Neck.) DC. (1 sp.) (Davis & Parris, 1975; Davis et al., 1988; Güner et al., 2000).

### Materials and Methods

During field studies in August 2007 in the Istranca Mountains, Kırklareli province, located in the region of Turkey that is part of the European continent, some interesting specimens were collected (Figure 1).

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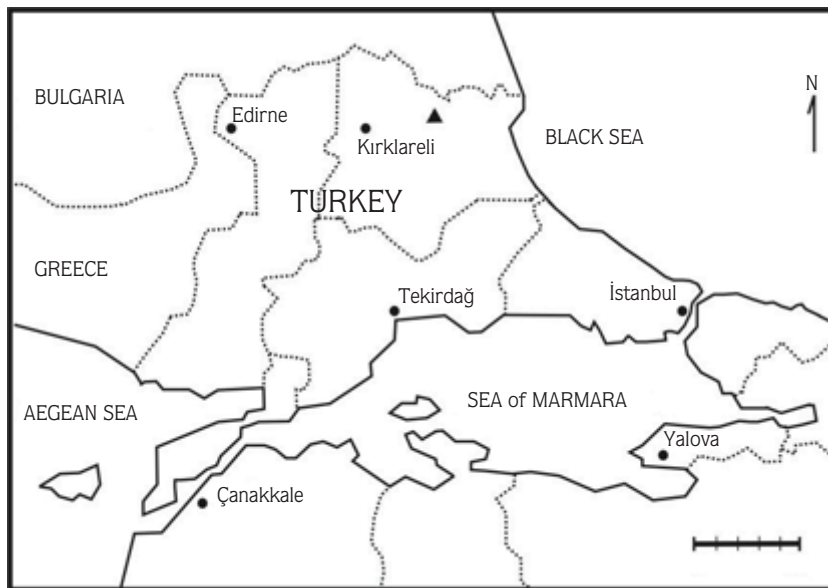


Figure 1. *Cirsium candelabrum* (▲) distribution in Turkey.

The specimens could not be identified using the *Flora of Turkey* (Davis & Parris, 1975) or its supplements (Davis et al., 1988; Güner et al., 2000); therefore, records in the floras of neighbouring countries and other relevant literature were examined (Grisebach, 1844; Boissier, 1856, 1875; Hayek & Markgraf, 1931; Charadze, 1963; Werner, 1976; Petrak, 1979; Huber-Morath, 1980, 1982; Sorger & Buchner, 1983a, 1983b; Strid, 1991). Additionally, the specimens were compared to *Cirsium* specimens deposited in ANK, BM, E, EGE, GAZI, HUB, ISTE, ISTF, and K herbaria. Following all this research we concluded that the specimens belong to *C. candelabrum* Griseb., previously unknown in Turkey.

## Results

*Cirsium candelabrum* Griseb. Spic. Fl. Rumel. 2:251 (1846) (Figure 1 and 2).

(Syn.: *C. chelmeum* Orph. in Boiss. Diag. Ser. II. No. 3, pp. 41-42).

Glabrous biennial, 150-200(-300) cm. Stem erect, greatly branched; axillary branches erecto-patent. Leaves coriaceous, undulate, margin stout and spiny; spines (6-)10-15(-25) mm, straw coloured, spines between leaf lobes short and slender; rosette leaves of first year plants linear-lanceolate, 20-30 × 5-7 cm, including winged petiole, pinnatisect; basal leaves of flowering plants similar

to rosette leaves, but shorter; stem leaves lanceolate to oblong, 10-20 × 5-7 cm, amplexicaule, acuminate, pinnatipartite, sinuate; segments triangular, lobed, lobes dentate; floral leaves (4-)6-7 × (2-)3-4 cm, lanceolate to narrowly ovate, pinnatifid to nearly entire. Capitula in clusters of 4-12, subsessile at apex of short branches, glomerules nodding; subtending leaves pectinately spiny, about as long as capitulum. Involucres 14-19 × 7-13 mm; cylindrical to campanulate; phyllaries 6-7-seriate, adpressed, outer with 1-3 mm spines, median 6-7 mm, with a darkening ca. 1-mm linear vittae, inner expanded hyaline and spinescent-ciliate at apex. Florets 30-40, hermaphrodite; corolla 13-17 mm, white or yellowish-white. Achenes oblong-trigonous, 3.5-5 × 1.5 mm, compressed, straw coloured when young, later pale brown; pappus delicate, 13-16 mm. *Fl. & Fr.* 8-9.

**Habitat:** Grassland, scrub, stony places.

**Type:** In Macedonia boreali: gregarie in campis pr. Kalkandele, alt. 1000' (substr. alluv.) (K!).

**Examined Specimens:**

*C. candelabrum* Griseb.

**Albania:** Klementi, 28.07.1900, *Baldacci* 230 (K!); Dardha, 15.08.1938, *Hepburn* 127 (K!); Luxheries Range, 4000 ft, 06.08.1935, *Alston & Sandwith* 2324 (K! BM!).

**Bosnia and Herzegovina:** In pascuis pr. Bugung et Foca, 07.1888, *Berk* 236 (K!). In declivibus prope



Figure 2. *Cirsium candelabrum* Griseb. A: Synflorescence; B: Stem and leaves.

Ustipraca ad fluvium Drina, 340-400 m, 08.1911, *Maly* s.n. (BM!).

**Bulgaria:** In pratis ad pagum Teteveni, 1911, *Urumoff* s.n. (*Petrak* 68) (E! K! BM!); Vitosa, 900 m, 04.08.1922, *Turrill* 690 (K!); W. Ziham rivuli eugra, Dragalevce, 08.1890, *Keck & Pichler* s.n. (K!); Sofia in valle pr. Dragalevce ad pedem mt. Vitosa, 08.1890, *Pichler* s.n. (K!).

**Greece:** Insula Euboea: In regione abietina montis Dirphys, 25.07.1910, *Tunta* 126 (E! K! BM!); Metsovo, 4000 ft, 29.07.1937, *Balls et al.* 3779 (E! BM); Kastoria, track sides, 08.1965, *Polunin* 8274 (E!). Sermeniko, ad rivularis in subalpinis, 14.08.1896, *Sintenis* 1201 (E!, K!). In regione abietina inferiori prope pagum Musinitza, 3000 ft, 11.07.1879, *Heldreich* s.n. (K!). Epirus: Distr. Joanina, Montes Pindus, in declivibus siccis prope Metsovo, 1200-1400 m, 08.1956, *Rehinger* 18304 (K!); Tetsova,

Epirus, 4000 ft, 29.07.1937, *Balls & Gourlay* 3779B (K! BM).

**Montenegro:** Crna Gora, Cetinje, 40 km along Cetinje to Titograd road, rocky roadside verge, 450 m, 42°21'N, 19°5'E, 29.07.1984, *MF & SG Gardner* 2391 (E! BM!).

**Romania:** Oltenia, distr. Mehidinti, in valle Bahna inter pagos Ilovita et Bahna, supra pagum Varciorova, 80-100 m, 17.07.1928, *Nyarady* s.n. (K! BM!); Distr. Gorj. Inter oppidum Novaci et Rinca, ca. 800 m, 07.09.1864, *Cirtu* 752 (BM).

**Turkey:** A1 (E) Kırklareli: 15 km from Üsküp to Armutveren, 300 m, in mixed forest in the valley, 02.08.2007, *Yıldız* (16525) & *Dirmenci* (ISTE 84835; EGE, GAZI).

*C. echinus* (Bieb.) Hand.-Mazz.

**Turkey:** A4 Kastamonu: 4 km S. of Ilgaz, 4 km, 900 m, 23.08.2006, *Yıldız* (16404) & *Dirmenci*. Tosya,

Kaiseridere, in declivibus, 26.06.1892, Sintenis 4500 (K). **A9** Kars: Kısır Da., above Susuz, 2000 m, *Davis* (30501) (BM). Ardahan: 5 km from Damal to Posof, steppe, 2100 m, 17.08.2006, *Yıldız* (16331) & *Dirmenci*. **B7** Sivas: İmranlı, Kızıldağ, steppe, 1850 m, 11.08.2006, *Yıldız* (16238) & *Dirmenci*. **B8** Bingöl: 24 km from Karlıova to Bingöl, Sudurağı village, ca. 1700 m, 11.08.2007, *Dirmenci* (3513) & *Arabacı*. Bayburt: Kop Da., above Aşağıkop village, 1800-2000 m, steppe, 12.08.2006, *Yıldız* (16262) & *Dirmenci*. **B9** Iğdir: Ağrı Da., Korhan Yaylası, 2100 m, 13.08.2007, *Dirmenci* (3558) & *Arabacı*.

## Discussion

*C. candelabrum* is common on the Balkan Peninsula, and is distributed in Albania, Bosnia and Herzegovina, Bulgaria, Greece, Montenegro, and south-west Romania. It was not previously recorded in Turkey. The species is rare and was found in a narrow area in a valley of Istranca Mountain, Kırklareli province.

Although the original description states that this species is close to *C. scleranthum* M.Bieb., *C. candelabrum* is an isolated species with no close allies in Turkey or Europe (Grisebach, 1844).

*C. scleranthum* is a synonym of *C. echinus* (M.Bieb.) Hand.-Mazz. and is common in Anatolia, Iran, and Afghanistan. The distribution of *C. echinus* in Thrace and the Czech Republic given in the *Flora of Turkey* (Davis &

Parris, 1975) and *Flora Europaea* (Werner, 1976) is questionable. Moreover, we found no evidence of its existence in Thrace during detailed field studies in 2007.

*C. echinus* is a very different species than *C. candelabrum*, and differs from it as follows: stems 40-75 (130) cm, pubescent; leaves white tomentellous to pannose beneath, capitula solitary or 2-3 on short branches, median phyllaries widening above into a membranous appendage with apical spines 4-6 mm, and corolla 17-20 mm (Table).

*C. candelabrum* is clearly different from other Turkish and European species. It can be easily distinguished from other *Cirsium* species by the following features: plants completely glabrous, stems greatly branched nearly from base to synflorescence, capitula in clusters of 4-12 at tips of the lateral branches, branches pendulous due to weight of capitula, corolla 13-17 mm, white or whitish-yellow (Figure 2).

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Table. Comparison of the diagnostic characters used to distinguish *C. candelabrum* from *C. echinus*.

Characters	<i>C. candelabrum</i>	<i>C. echinus</i>
plant	completely glabrous	pubescent
stem	150-200(-300) cm	40-75(-130) cm
capitula	in clusters of 4-12	in clusters of 2-3
involucre	cylindrical to campanulate	hemispherical
median phyllaries	linear, 6-7 mm, margin entire, apical spine 1-3 mm	lanceolate 10-15 mm, widening into an appendage, lacerate, apical spine 4-6 mm
corolla	13-16 mm, white or whitish-yellow	16-20 mm, white or pinkish

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