

Cyclosporum leptophyllum (Apiaceae): a new alien record for the flora of Turkey

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Abstract. *Cyclosporum leptophyllum* (Apiaceae) is reported as a new alien species for the flora of Turkey. Genus *Cyclosporum* is also newly recorded from Anatolia. The specimens were collected from A8 Trabzon: in a forest nursery. The nursery is located in the Eastern Black Sea Region and is home to many alien species due to its climatic conditions. A description and photographs from the nursery of the new record are also presented in the article.

Key words: *Apiaceae*, *Cyclosporum*, new record, Turkey

Introduction

Genus *Cyclosporum* Lag., a member of *Apiaceae* (*Umbelliferae*), comprises three species (Menglan & Watson 2005) and is closely related to genus *Apium* L. (Ronse & al. 2010). As a type species of the genus, *Cyclosporum leptophyllum* (Pers.) Sprague (Wild Celery, Fir-Leaved Celery, Slender Celery, Marsh Parsley) is a harmful (Pande & al. 2011) cosmopolitan/ruderal weed native to South America (Ronse & al. 2010; Gärtner & al. 2015). This ephemerophyte species is naturalized as a widespread pantropical/warm-temperate weed (Ronse & al. 2010; Shner & al. 2011; Pimenov 2017; Menglan & Watson 2005). It was reported from the neighboring countries to Turkey, Europe and the Mediterranean (Barina & al. 2011), Georgia, Russia and Iran (Pimenov 2017).

This study aims at reporting a new genus, *Cyclosporum*, from NE Anatolia. *Cyclosporum leptophyllum*, which is widely distributed in the adjacent countries, has never been reported from Turkey before.

Material and methods

Voucher specimens were deposited in KATO (Herbarium of Karadeniz Technical University, Faculty of Forestry) in Trabzon. Materials were collected during field work for the Master's thesis of the first author and coordinated by GPS (UTM 50 Datum). Populations were monitored in the course of four years, until the end of 2017. After examination of the materials and checking with proper literature (Davis 1972; Davis & al. 1988; Güner & al. 2000; Güner & al. 2012), the find was determined as a new genus record for the flora of Turkey.

Results and discussion

Cyclosporum leptophyllum (Pers.) Sprague, Bot. Porto Rico 6: 52. 1925 (Fig. 1).

Annual, 1-several-stemmed erect plants, fork-forming branches, 5–45(-60) cm, glabrous. Leaves

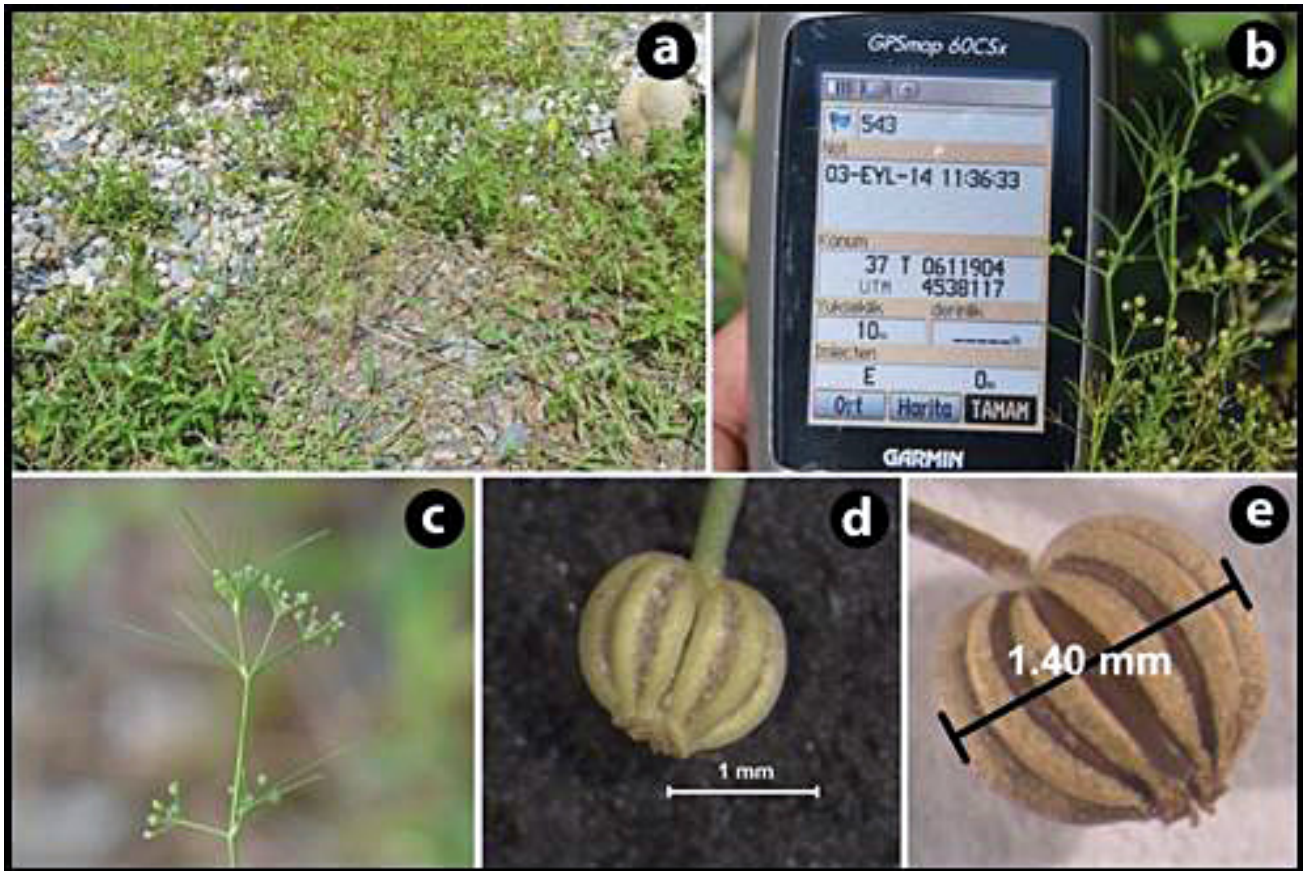


Fig. 1. *Cyclosporum leptophyllum*: **a** – habitat in the forest nursery, **b** – determination of coordinates, **c** – stem with flowers, **d** – immature fruit, **e** – mature fruit.

3–4-pinnately compound or dissected, exstipulate, basal petiole up to 40 mm; leaves oblong in outline, 2–10 × 2–8 cm; segments linear. Inflorescence glabrous, umbel compound, bracts lacking, umbellules 5–25-flowered, rays 2–3; pedicels unequal, up to 4 mm long, central flowers subsessile, bisexual; involucre and involucler absent; sepals absent, petals 5, spreading, up to 5 mm long, white or occasionally pinkish at tip or margin; stamens 5, free, pistil 1, inferior, 2-lobed, style ca 0.1 mm. Fruit globose, one-seeded mericarp semi-ovate, 5-ribbed, ca 1.5–2 × 1–2 mm. Flowering period: May–June.

A8 Trabzon: In a forest nursery, amongst greenhouses, 10 m, 03.09.2014, UTM: 0611904, 4538117, KATO 9856!; İbid, 22.11.2017, KATO 16778!

C. leptophyllum is a new record for the flora of Turkey, collected from A8 Trabzon, in a forest nursery, along with the taxa listed below:

Acalypha australis L., *Amaranthus retroflexus* L., *Artemisia verlotiorum* Lamotte, *Calystegia silvatica* (Kit.) Griseb, *Commelina communis* L., *Conyza canadensis* (L.) Cronquist, *Crepis foetida* L. subsp.

foetida, *Digitaria sanguinalis* (L.) Scop., *Eleusine indica* (L.) Gaertner, *Lactuca serriola* L., *Oxalis corniculata* L., *Potentilla reptans* L., *Polygonum persicaria* L., *Setaria glauca* (L.) P. Beauv, *Taraxacum scaturiginosum* G.Hagl., *Trifolium pretense* L., and *Verbena officinalis* L.

The first specimen of the species was collected in Turkey in 2014 and monitored in its habitat and close environs until the end of 2017. While it is not certain how this taxon got introduced to NE Anatolia, it could have probably been transferred with the nursery devices, peat or other materials imported from abroad. This inconspicuous and often casual species is probably one of the most widespread alien species in Europe, Africa, Australia, and Oceania (Barina & al. 2011; Pimenov 2017). Considering its naturalization in the adjacent countries to Turkey, its distribution in NE Anatolia is not surprising. Furthermore, this South American species has been reported from streamsides, wastelands, ruderal areas, and naturalized as a weed in tropical and temperate regions (Menglan & Watson 2005).

In South Africa, the aerial parts of the species are used in the treatment of cattle wounds caused by ticks (Magwede & al. 2014). The essential oil of the species could prove to be a useful source of thymol ethers (Pande & al. 2011) and is used for treatment of mammary gland carcinoma (MCF-7) cell line (Helal & al. 2016).

Cyclosporum leptophyllum was initially placed in genus *Apium* L., sect. *Cyclosporum* (Lag.) DC. (Wolff 1927). Constance (1990) referred it to genus *Cyclosporum* Lag. Molecular evidence supported recognition of the species as a separate genus and confirmed its distant placement in genus *Apium* (Ronse & al. 2010).

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