

***Campylopus flexuosus* (Hedw.) Brid. (Dicranaceae, Bryopsida), a new record in Turkey**

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Abstract – *Campylopus flexuosus* (Hedw.) Brid. (*Dicranaceae*), a suboceanic and disjunct cosmopolitan moss found in the Caucasian part of Turkey, is here reported for the first time from Turkey. A site description and illustrations of the Turkish specimens are briefly given together with notes on its diagnostic characteristics and ecology. This record complements our knowledge on the bryodiversity of the Eastern Black Sea region of Turkey and closes gaps in the hitherto known distributional range of this species.

Bryophyte diversity / Musci / *Campylopus flexuosus* / Turkey / distribution / ecology

Many areas of Turkey still belong to poorly known and often hardly accessible regions, and our knowledge on the bryodiversity, distribution patterns and range of species is far from being complete. Recently, much research on the Bryophyte flora of Turkey has been made by some foreign and mostly local botanists. Especially, the most prospected part corresponds to the Eastern Black Sea region because of its wealthy bryophyte composition. Despite several small scale publications on this region (e.g., Özdemir, 1994; Baydar & Özdemir, 1996; Özdemir & Baydar, 1997; Townsend, 1997; Townsend, 2005; Özdemir & Çetin, 1999; Papp, 2004; Özdemir & Koz, 2008) and some more recent additions (e.g., Erdağ, 2003; Abay *et al.*, 2007; Keçeli & Abay, 2007; Uyar *et al.*, 2008; Özdemir, 2008) increasing research activity in the area indicates that new discoveries may be expected.

In course of recent prospection in the oceanic zones of northern Turkey (Fig. 1), we encountered a specimen belonging to the genus *Campylopus* that resulted to be *Campylopus flexuosus* (Hedw.) Brid., Until now, the genus *Campylopus* has been represented in Turkey by 4 species: *C. atrovirens* De Not., *C. fragilis* (Brid.) Bruch *et* Schimp., *C. pilifer* Brid. and *C. subulatus* Schimp. *Campylopus flexuosus*, the fifth species recorded in Turkey, is a typical sub-oceanic temperate species having a disjunct cosmopolitan distribution range (Uyar & Çetin, 2004; Kürschner & Erdağ, 2005; Dierßen, 2001). Although it almost occurs in the whole Europe, until now it has not been recorded in Bulgaria, Greece, Albania and Macedonia (Düll, 1984; Carmela Cortini, 2001; Natcheva & Ganeva, 2005; Colacino & Sabovljević, 2006). The nearest localities of the species are situated in the

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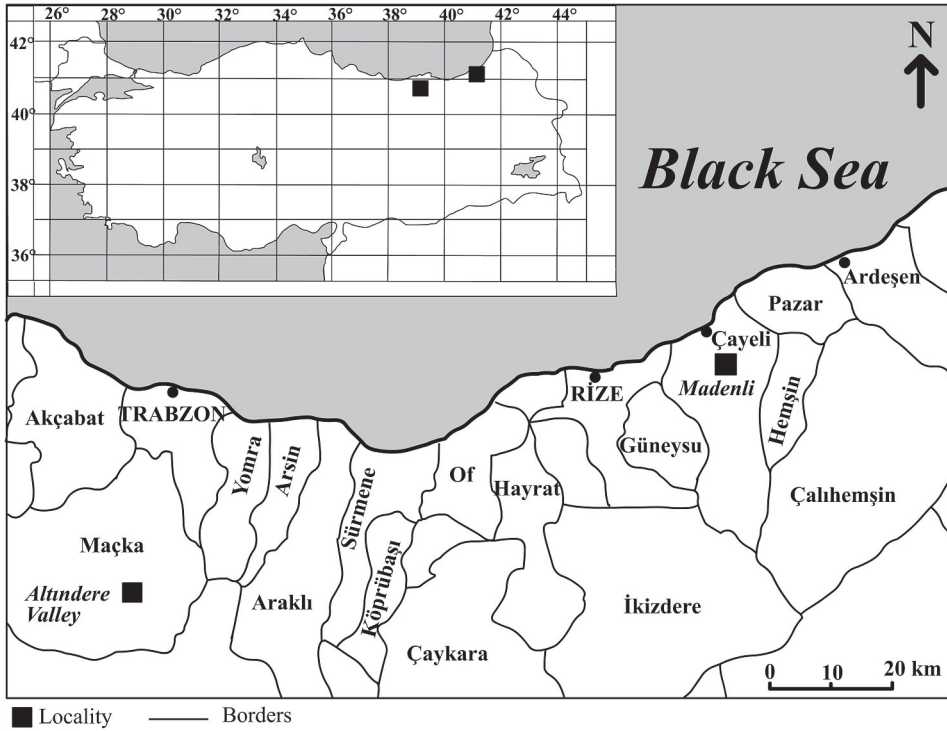


Fig. 1. Geographic location of the study area. ■ indicates the species localities.

Caucasian part of Turkey (Ignatov & Afonina, 1992) and Romania (Düll, 1984; Akhiani & Kürschner, 2004). So, this report extends its range to Turkey and contributes to a better knowledge of the Turkish bryophyte flora.

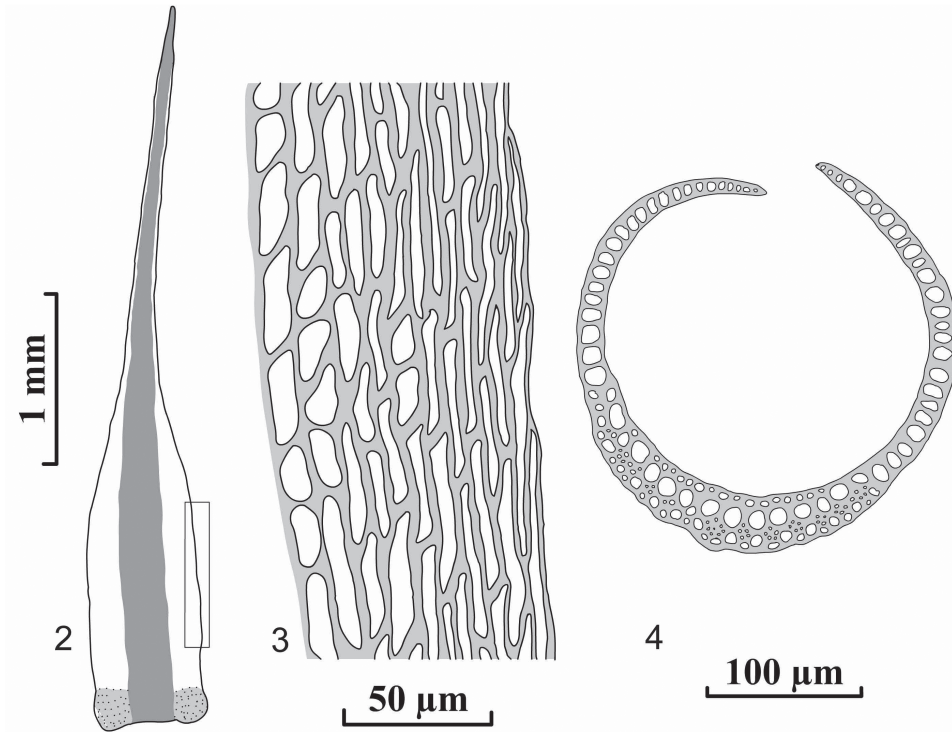
Campylopus flexuosus (Hedw.) Brid.

Specimens examined

Turkey, Rize: Çayeli, Kaptanpaşa, Madenli village (41° 05' N, 41° 45' E), at 100 m a.s.l., on wet soil near stream bed, under woods (*Rhododendron ponticum* L. and *Alnus glutinosa* (L.) Gaertner and *Picea orientalis* (L.) Link), together with *Bazzania trilobata* (L.) Gray., 15 March 2008, Özdemir 1674.

Turkey, Trabzon: Maça, Altındere valley, around of the Meryemana monastery (40° 42' N, 39° 39' E), at 1200 m, a.s.l., on wet rocks, under *Picea orientalis* (L.) Link., 23 March 2008, UYAR 848.

This species is recognized by the glossy, dark green tufts wafted by reddish brown rhizoids and with leaf-tips crossing each other in a characteristic way. It is the only species within the genus where the cells on both the dorsal and ventral sides of the nerve are smaller than the median cells. Vegetative propagation by deciduous shoot tips or fragile leaves is very common, and sometimes small gemmae are also seen on stem rhizoids. The Turkish specimen has leaves with distinct, 3-5 rows of hyaline marginal cells extending from base to upper part of the stem leaves (Figs 2-4).



Figs 2-4. *Campylopus flexuosus*: 2. Leaf, 3. Marginal and median cells of leaf lamina, 4. Transverse section of the leaf

Ecology – It is a pioneer species on newly exposed acidic soil or peaty, frequently on grazed and trampled ground. Besides, it is possible to find it in open moors, moist heath land, rock crevices and on flooded rocks. Sometimes it prefers living on decaying stumps and logs (Dierßen, 2001; Hallingbäck *et al.*, 2006). In Turkey, its collecting localities have acidic brown forest soils. Frequently the plants were found under dense forest layer on wet silt soils and flooded gravel rocks around stream bed, and also sometimes on boulders or in siliceous rocks cracks at cliffs.

The specimens are kept at the Herbarium of Department of Biology, Faculty of Arts and Sciences Karadeniz Technical University.

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