

## NEW LOCALITIES OF *ELATINE MACROPODA* AND *E. ALSINASTRUM* IN TURKEY (ÇANAKKALE)

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**Abstract:** New chorological data are presented for the rare and poorly known ephemeral wetland specialists *Elatine macropoda* and *E. alsinastrum* from Çanakkale Province (western Turkey). The former species was hitherto known only from a single Turkish locality in İzmir Province, and the latter was reported only from Edirne, Denizli and Kars Provinces. The habitats preferred by both species are temporary ponds, especially their grazed and trampled muddy shores. The existence of further populations in such habitats is highly presumable.

**Key words:** distribution, Elatinaceae, floristics, Isoëto-Nanojuncetea, Mediterranean temporary ponds

### INTRODUCTION

The members of the genus *Elatine* are inconspicuous, but characteristic annual species of damp, pioneer surfaces or shallow, temporarily inundated habitats (DEIL 2005, LUKÁCS *et al.* 2013). *Elatine* species belong to the most characteristic representatives of the flora of Mediterranean temporary ponds (BAGELLA *et al.* 2009, BAGELLA and CARIA 2012, MINISSALE and SCIANDRELLO 2015), which are one of the most valuable and endangered habitat types in the Mediterranean (ZACHARIAS *et al.* 2007, ZACHARIAS and ZAMPARAS 2010, RHAZI *et al.* 2012).

The distribution and taxonomy of the members of the whole genus is poorly known (POPIELA and ŁYSKO 2010). In Turkey occurrences of three species (*E. alsinastrum* L., *E. ambigua* Wight and *E. macropoda* Guss.) have been reported thus far (DAVIS 1967, UOTILA 1988, 2009), but all of them are very rare, known only from a few locations. (Although *Elatine triandra* Sckuhr was reported by URUŞAK *et al.* (2013) as a new species for the Turkish flora, this plant is representing a *Callitriche* species based on published photographs). Existence of further Turkish populations of *Elatine* species is highly presumable based on the recently published locations from the Aegean Islands. The occurrence of *Elatine macropoda* – together with some other rare Isoëto-Nano-

juncetea elements – was recently reported in the vicinity of the Turkish coast on Lesbos (BAZOS and YANNITSAROS 2001) and at a single location on Samothraki (BIEL 2012).

In this paper we present some hitherto unknown localities of *Elatine alsinastrum* and *E. macropoda* found in Çanakkale Province.

#### MATERIAL AND METHODS

Based on our previous experiences on habitat preferences of the Mediterranean *Elatine* species (MOLNÁR V. *et al.* 2014) we visited temporary ponds along the Mediterranean coast of Turkey thematically in 2013 searching for *Elatine* occurrences. Taxa were identified based on DAVIS (1967) and UOTILA (1988). The geocoordinates and the altitude of visited localities were identified by a Garmin E-Trex Legend GPS handheld device and data were recorded in WGS84 format.

#### RESULTS AND DISCUSSION

*Elatine macropoda* was found at two locations in Çanakkale Province. 1.) Behram Köyü (39.516785° N, 26.389034° E), 294 m (08.05.2013, leg.: Löki, Fig. 1). 2.) Balabanlı Köyü (39.504611° N, 26.216334° E), 302 m (15.06.2013, leg.: Molnár V.). Until now only one locality of this species has been reported in Turkey, near İzmir (DAVIS 1967).

We found *Elatine alsinastrum* at three locations in Çanakkale Province. 1.) Büyükhususun Köyü (39.510611° N, 26.381880° E), 289 m, a single specimen (19.05.2013, leg.: Löki); 2.) Koyunevi Köyü (39.488542° N, 26.184079° E), 328 m, 22 individuals with hundreds of generative shoots (15.06.2013, leg.: Molnár V., Fig. 2). 3.) Kocaköy Köyü (39.500263° N, 26.140105° E), 304 m, 10 individuals with approximately 30 generative shoots (15.06.2013, leg.: Molnár V.). According to POPIELA *et al.* (2013) there is only a single location of this species known from Turkey. UOTILA (1988) specified only 3 localities of this species in Turkey: Havsa (Edirne Province), Lake Çıldır (Kars Province) and Buldan (Denizli Province).

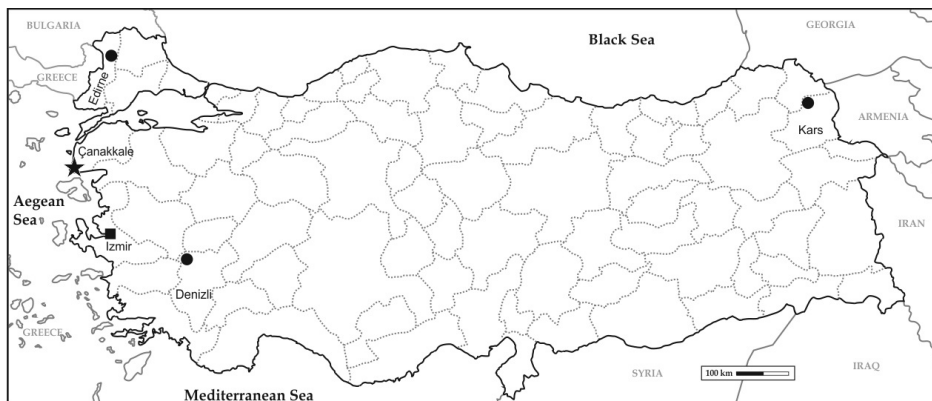
All newly found *Elatine* populations are growing in the shallow water of temporary ponds and on their grazed muddy shores. Based on the remarkable disjunctions observed in the currently known distribution pattern of both species (Fig. 3), existence of further populations is highly presumable, primarily throughout the Marmara and Aegean regions.



**Fig. 1.** Flowering and fruiting specimens of *Elatine macropoda* at Behram Köyü (Çanakkale) (photo: A. Molnár V.).



**Fig. 2.** Habitat of *Elatine alsinastrum* at Koyunevi Köyü (Çanakkale) (photo: A. Molnár V.).



**Fig. 3.** Distribution of *Elatine alsinastrum* and *E. macropoda* in Turkey (★ = new localities of *E. alsinastrum* and *E. macropoda*; ■ = formerly published occurrence of *E. macropoda*; ● = formerly published occurrences of *E. alsinastrum*).

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**Összefoglaló:** Két iszapnövény, az *Elatine macropoda* és az *E. alsinastrum* új előfordulási adatait közöljük Törökország nyugati részéből (Çanakkale). Az *E. macropoda* korábban csak Törökország İzmir tartományából, míg az *E. alsinastrum* Edirne, Denizli és Kars tartományokból volt ismert. Mindkét faj kiszáradó vízállásokban került elő, elsősorban azok legelt és taposott, iszapos parti zónájából. Adataink alapján mindkét faj további populációinak előkerülése várható Törökország területén.

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