

Hygrohypnum ochraceum (Bryophyta), new to Turkey and Southwest Asia

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Abstract. *Hygrohypnum ochraceum* is reported as new to Turkey and Southwest Asia, following the latest bryological field survey to the Ardahan and Ordu regions of Turkey. Illustrations, geographic distribution and comparisons with morphologically similar taxa are provided.

Key words: biodiversity, *Hygrohypnum*, mosses, Turkey

Introduction

The geography and climate of Turkey vary remarkably across the country. Turkey has three main floristic regions: Euro-Siberian, Mediterranean and Irano-Turanian (Akman 1999). Thus the country is characterized by rich biodiversity of different ecological areas that supply excellent habitats for plants, including bryophytes. The total number of bryophyte species of Turkey has reached 966 (182 liverworts, 780 mosses, 4 hornworts) after the addition of new records (Abay & Keçeli 2014; Batan & al. 2014; Ezer & al. 2014; Özdemir & Batan 2014; Ursavaş & Çetin 2014; Ören & al. 2015; Batan & al. 2016; Ezer 2016; Özenoğlu-Kiremit & al. 2016). Compared to other European countries, few studies of the bryophyte flora have been conduct-

ed in Turkey. On the other hand, Turkey has the highest number of bryophyte taxa of all countries of Southwest Asia.

This paper reports findings resulting from bryological surveys performed in the southwest part of Northeast Turkey, in the environs of Ordu (Euro-Siberian floristic region) near the shores of the Black Sea, and in East Turkey in the surroundings of Ardahan (Irano-Turanian region) (Fig. 1).

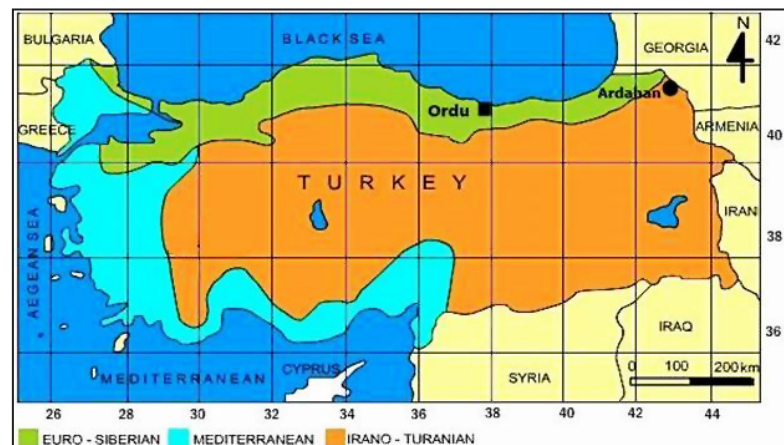


Fig. 1. The collection sites – (●) Ardahan and (■) Ordu – of the reported taxon and the phytogeographical regions in Turkey.

Material and methods

Hygrohypnum specimens were collected during bryological surveys held in the Ardahan and Ordu regions on 07.09.2014, 06.06.2014, 29.01.2014, and 21.08.2014 (Fig. 1). The status of this taxon was evaluated by reviewing the related literature for Turkey (Uyar & Çetin 2004; Kürschner & Erdağ 2005; Kürschner & Frey 2011; Ros & al. 2013) and Southwest Asia (Kürschner & Frey 2011).

Voucher specimens are lodged in the Herbarium of the Biology Department, Faculty of Science, Karadeniz Technical University, Turkey (KTUB)

Results and discussion

Amblystegiaceae

Hygrohypnum ochraceum (Turner ex Wilson) Loeske (Fig. 2)

Specimens examined: Turkey (Ordu): Fatsa district, Kocaman village, on wet soil near a stream, 776 m, 40°48'36"N, 37°18'47"E, 29.01.2014, coll. & det. N. Batan & T. Özdemir (KTUB 1601); Mesudiye district, Armutkolu High Plateau, on wet rock, 1956–2200 m, 40°36'16"N, 37°55'41"E, 21.08.2014, coll. &

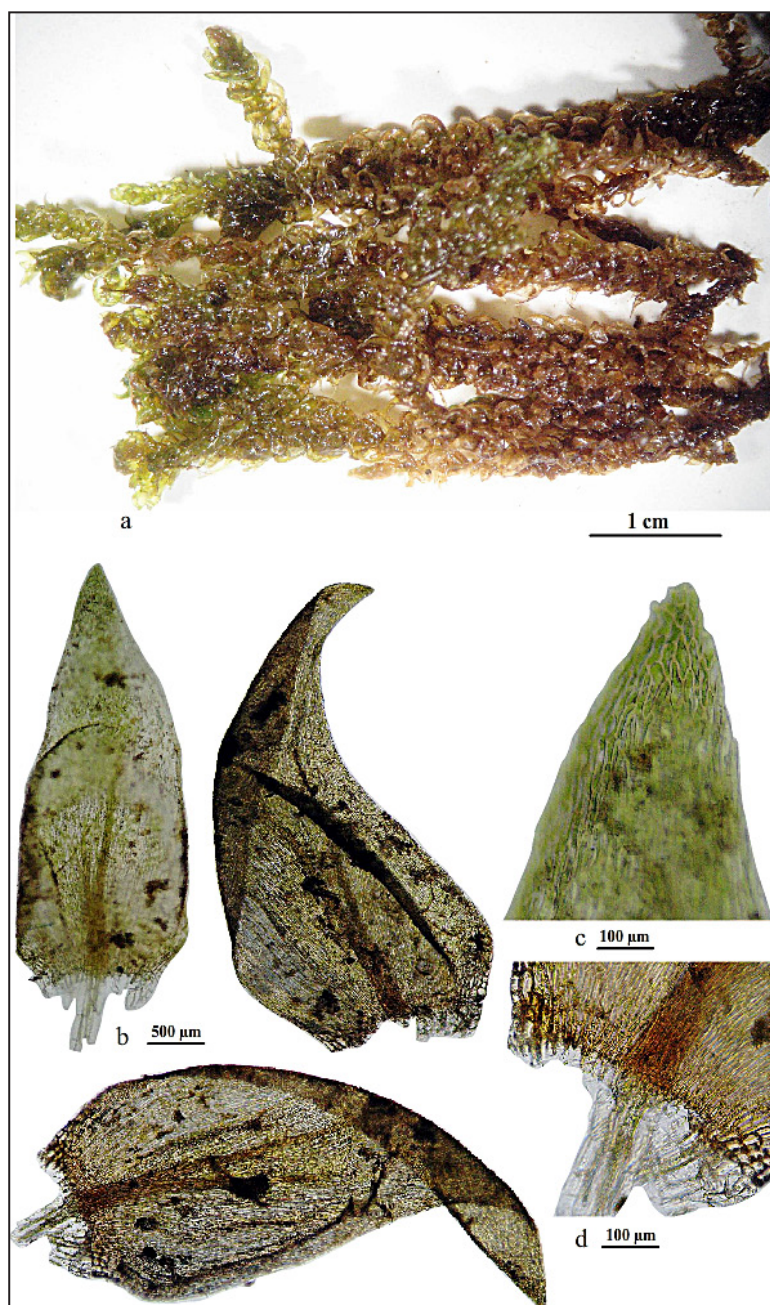


Fig. 2. *Hygrohypnum ochraceum*: a) habit; b) leaves; c) leaf apex; d) leaf base (alar cells) (KTUB 1605).

det. *N. Batan* & *T. Özdemir* (KTUB 1602); Ardahan: Bağdeşen village, Yalnızçam forest, on wet soil near a stream, 2000–2100 m, 41°01'58"N, 42°22'53"E, 07.09.2014, coll. & det. *N. Batan* & *T. Özdemir* (KTUB 1603); Hasköy village, Yalnızçam forest, on wet rock near a stream, 1893–1950 m, 41°01'44"N, 42°25'15"E, 07.09.2014, coll. & det. *N. Batan* & *T. Özdemir* (KTUB 1604); Hanak district, Koyunpınar village, on wet rock near a stream, 1852 m, 41°14'18"N, 42°46'58"E, 07.07.2014, coll. & det. *N. Batan* & *T. Özdemir* (KTUB 1605).

Hygrohypnum ochraceum differs from other *Hygrohypnum* species in the yellowish-green color of the plant, with soft shoots ca. 2.5–5 cm high. The leaves are concave, straight or curved, ovate or ovate-lanceolate; alar cells are inflated, hyaline, thin-walled and few. The costa is short and double. *Hygrohypnum ochraceum* is very similar to *H. luridum* and *H. eugyrium*. It is distinguished from *H. luridum* by the absence of a sporophyte, soft shoots, hyaline alar cells, and distribution at higher altitudes. *Hygrohypnum ochraceum* differs from *H. eugyrium* by its hyaline, thin-walled and few alar cells.

Hygrohypnum is represented by five taxa in Turkey (cf. Uyar & Çetin 2004; Kürschner & Erdağ 2005) and by seven taxa in Southwest Asia (Kürschner & Frey 2011).

Distribution: *Hygrohypnum ochraceum* has been previously reported from montane regions and North Europe, northwards of Svalbard, Faeroes, Andora, Corsica, Spain, Italy, France, Bosnia-Herzegovina, Iceland, Russia, China, Caucasus, C. Asia, Korea, Japan, N. Africa, N. America, and Greenland (Nyholm 1979; Ireland 1982; Noguchi & al. 1991; Smith 2004; Frey & al. 2006; Ros & al. 2013). It is new to Turkey and Southwest Asia (Uyar & Çetin 2004; Kürschner & Erdağ 2005; Kürschner & Frey 2011).

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