A new locality of expansive moss species *Orthodicranum tauricum* (Bryophyta, Dicranaceae) in North–Estern Poland

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Abstract: A new locality of expansive moss species *Orthodicranum tauricum* has been found in the Napiwodzko – Ramucka forest, between villages Zgniłocha and Nowa Kaletka, Poland.

Key words: *Orthodicranum tauricum*, moss, Napiwodzko – Ramucka forest, Poland.

Introduction

Orthodicranum tauricum (Sapjegin) Smirnova is a species of Atlantis climat zone. In recent times have been observed to increase its range eastward in subcontinental climat zone. In Poland it fund in western Carpathians: Sanocko – Turczańskie mountains, Pogórze Leskie (Ochyra & Stebel 2008), and NW Poland: Napiwodzko – Ramucka Forest, „Źródła rzeki Łyny” reserve (Pisarek *et al.* 2002), Napiwodzo – Ramucka Refuge (Sawicki *et al.* 2013). A new locality was found during performing research in PhD thesis. *O. tauricum* significantly increases its reach to the east of the continent. It a species of the Atlantic climate, in which clearly observed on the eastern border of the expansion range of distribution. Probably be binding it with a progressive acidification of microhabitats.

Orthodicranum tauricum is similar to *Dicranum viride*. Both species are characterized by erect and straight leaves, with fragile upper leaves. But *O. tauricum* have elongate lamina cells, costa in basal portion lacking stereids bands, with up to 1 – 2 cell layers above and below guide cells (Hedenäs *et al.* 2003, Plášek 2013).

Orthodicranum tauricum occurs mainly on tree bases and bark of trees, rarely is known from rotten wood or soil (Hedenäs *et al.* 2003).

Description of the new locality

Locality: Poland, in the municipality Purda, county Olsztyn in Warmia – Mazury on the bark *Quercus robur* growing along the road 598 connecting Zgniłocha village and Nowa Kaletka village; GPS: N=53°32'901'', E=020°35'436'', leg. J. Chmielewski 13.11.2014.

Discussion

Trees where *Orthodicranum tauricum* was found its 120 years of oak stem, growing along the provincial road running through a more compact forest complex of Napiwodzko – Ramucka Forest. Around trees there is no dense undergrowth, stumps are not so strong shading. In addition, the trees grow inclined towards the roadway, which can affect the conditions microhabitat bark. *O. tauricum* was accompanied by *Hypnum cupressiforme* and *Orthodicranum montanum*. This new locality seems to be the most eastern in the distribution range of this species.

In Poland this species still is spreads. *Orthodicranum tauricum* occurs mainly on bark of trees and shrubs, such as *Betula pendula*, *Alnus glutinosa* and *Quercus robur*. In Poland, this species it was found also on trees species like *Abies alba*, *Betula pubescens*, *Larix decidua* and *Pseudotsuga menziesii* (Stebel *et al.* 2012). It prefers damp forest patches and trees

growing near lakes, ponds or streams (Stebel *et al.* 2012) but sometimes inhabits a lonely old trees, growing along forest roads where there is openwork light, which indicates a partially synanthropic nature of the species (Piwowarski 2014). In recent years, the populations of *O. tauricum* also increased in Hungary. Also visible is a progressive expansion to the east - the Caucas, forest-steppe and steppe zones of European Russia and hemiboreal zone near Moscow (Stebel *et al.* 2012).

Fig 1: The most eastern locality of *Orthotricranum tauricum* in Poland

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