

Mosses *Orthodontium lineare* and *Dicranum tauricum* in small-scale protected areas in Žďárské vrchy protected landscape area (the Czech Republic)

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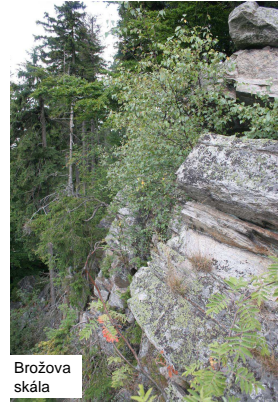
Introduction

The mosses *Orthodontium lineare* and *Dicranum tauricum* were several times recorded when we made bryology inventories in Žďárské vrchy protected landscape area. The records of these species were rare in the region and represent new data set concerning distribution and ecology.



Methods & study area

Bryology inventories of 16 small-scale protected areas were made in Žďárské vrchy protected landscape area in 2006, 2007.
Žďárské vrchy protected landscape area – basic data:
- location: N 49°31' - 49°47', E 015°46' - 016°14'
- landscape is mosaic of meadows, grazing land, fields, forests and ponds (and also peat coenoses). Forests cover about half of area. They are mostly represented by spruce monoculture.
- a balanced and well-preserved cultivated landscape
- situated in the northeastern part of Českomoravská Vrchovina uplands
- flat and wide valleys, mild slopes and curved hilltops
- metamorphic rocks, different kinds of gneiss, migmatites and mica schist with some areas of serpentinite and crystalline limestone
- the climate is rather cold, wet and windy
The studied small-scale protected areas consist of rocks, sometimes of adjacent block fields. Rocks are formed of gneisses, migmatites, and quartzites.



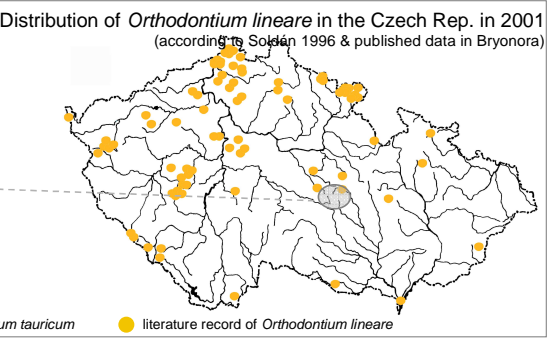
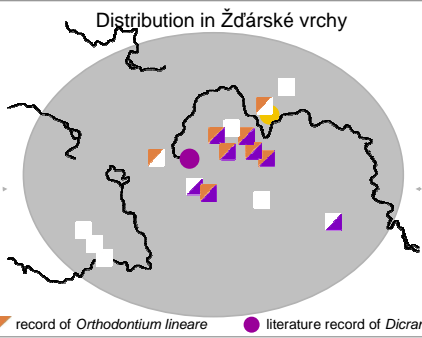
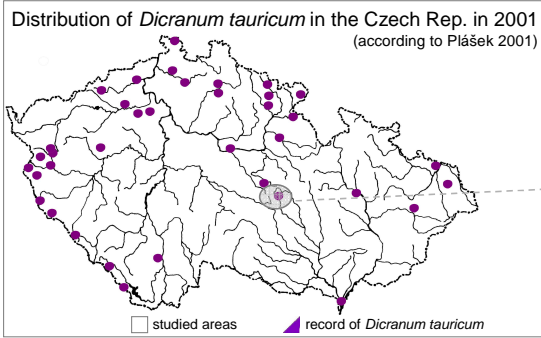
Dicranum tauricum

- the first record in the Czech Republic – 1975
- in 2001 – 52 localities, evident expansion
- mostly on bark of solitary deciduous trees and rotten wood, only sporadically on the epilittic surfaces (gneiss and sandstone) and forest soil always without sporogones but often with gemmae (80%)

Orthodontium lineare

- invasive moss, the first record in Europe – 1911 (Great Britain)
- the first record in the Czech Republic – 1964, Teplicko-adršpašské skály
- it is distributed especially in W and NE parts of Bohemia; the biggest concentration is in sand-stone rock towns (Adršpašsko-teplické skály rocks and Labské pískovce sand-stones)
- it grows in secondary pine woods and spruce woods; on tree trunk bases, rotten wood, crude litter, humus sandy soil, peat, sand-stone

Results

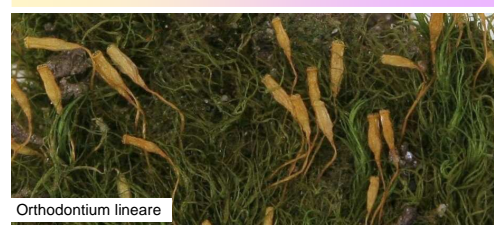
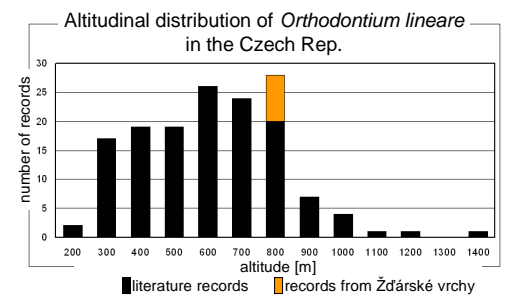
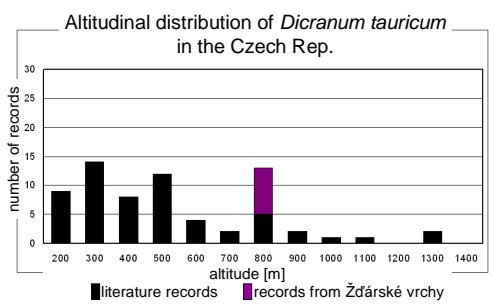


***Dicranum tauricum* - distribution in Žďárské vrchy protected landscape area:**
 previously, one record was known (close to Tři Studně village, 1978). During our investigation we found 12 records in 8 localities: Brožova skála, Černá skála, Devět skal, Dráteničky, Hudecká skála, Lisovská skála, Malínská skála and Vlčí kámen.
 It mostly grows at altitudes from 260 to 550 m a.s.l. and the localities of Žďárské vrchy (about 800 m a.s.l.) are situated outside this range.
 Substrate – stump (4 records), rotten wood (2), base of trunk and root swelling (3), stone (4).

Summary

- Orthodontium lineare* was previously known from one locality in this area. Our investigation confirmed the previous record and 7 new localities were found. Altitudes of the records lie in main range of vertical distribution of this species in the Czech Republic. The most often substrate was thin soil layer on rock.
- Only one record of *Dicranum tauricum* was known from this area and other 8 localities were found during our investigation. Altitudes of these records are higher than main range of vertical distribution in the Czech Republic. Moss grew most often on stumps and stones.

***Orthodontium lineare* - distribution in Žďárské vrchy protected landscape area:**
 previously, only one record was known from the area (Milovské Perničky, 1998). During our investigation we found 13 records in 8 localities: Brožova skála, Černá skála, Devět skal, Dráteničky, Lisovská skála, Malínská skála, Milovské perničky and Tisůvka.
 Altitude – records of Žďárské vrchy lie in range of majority, near to its high value about 800 m a.s.l.
 Substrate – compact soil on rock (8 records), forest soil (2), rotten wood (2), base of trunk (1).



References

Plášek V. (2001): *Orthodicranum tauricum* (Sapeg.) Z.Smirn. (Bryophyta) in the Czech Republic – distribution and ecology. – Čas. Slez. Muz. Opava, A, 50: 97–104.
 Soldán Z. (1996): Rozšíření neofytických mechu *Campylopus introflexus* a *Orthodontium lineare* v České republice. – Bryonora, Praha, 18: 10–19.

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