

## ***Philonotis marchica* (Bryophyta), new record in Slovakia (exhausted fen Krivý kút, Poprad Basin)**

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Šoltés R. (2008): *Philonotis marchica* (Bryophyta), new record in Slovakia (exhausted fen Krivý kút, Poprad Basin). – Thaiszia – J. Bot. 18: 51-54. – ISSN 1210-0420.

Abstract: During the peatlands mapping in Slovakia, *Philonotis marchica*, rare species for Slovakia bryoflora, was found. This species is widespread but scattered, evidently bears suboceanic features. Its habitat and phytocoological conditions are briefly described.

Keywords: Bryophyta, *Philonotis marchica*, Slovakia, Krivý kút, Poprad Basin.

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### Synonyms:

*Philonotis laxa* Limpr.

*Philonotis affinis* Warnst.

*Philonotis glabriuscula* Kindb.

*Philonotis rivularis* Warnst.

*Philonotis umbonata* Kindb.

*Webera fontana* Kindb.

### Introduction

*Philonotis marchica* (Hedw.) Brid. is widespread in the world. The species grows in calcareous wetlands in North, West and Central Europe, West Asia, Japan, Korea, North America, Algeria, Madeira (SMITH 1978). Despite the fact that it is a widespread species, it is rare in central Europe. The occurrence of *Philonotis marchica* has, up to the present, been reported in Slovakia by PILOUS (1961) and by PEČIAR (1987). PILOUS (1961) collected the species in a small

brook inside the settlement of the willage of Lúčky, Liptov region. The occurrence has not been confirmed. PEČIAR (1987) reported the find of the species near the willage of Uličské Krivé (Bukovské vrchy, Eastern Slovakia), in a small spring near brook, under forest at the altitude of 400 m a. s. l. Despite searching, the occurrence has not been confirmed as well. The moss was found in the exhausted fen Krivý kút, approximately 2 km NNE from the town of Spišská Belá, Poprad Basin, middle point 49°12,567' N 20°28,333' E.

## Methodological notes

The nomenclature of bryophytes follows KUBINSKÁ & JANOVIČOVÁ (1998) and MARHOLD (1998) for vascular plants. The specimens are stored in the Herbarium of the Museum of Tatra National Park in Tatranská Lomnica [TNP], Slovakia.

## Results

The author firstly collected *Philonotis marchica* in the exhausted fen Krivý kút, near the town of Spišská Belá, Poprad Basin, in May 24, 1999, and many times later. The author consider the species as *Philonotis arnellii*. The species correctly determined Blanka Buryová as *Philonotis marchica*, rare species for Slovakia. The fen Krivý kút was mined sometimes in the sixties. It seems that the regeneration of the vegetation cover has set in rapidly. From the vegetational viewpoint, the part of the fen shows features towards the rich minerotrophic fen of the alliance *Caricion davallianae*, the rest is a mosaic of the communities of the alliances *Phragmition*, *Salicion cinereae* and *Lemnion minoris*. This rare species grows scattered all over the fen, locally rather abundant, but most often accompanies *Equisetum variegatum*. The find of *Philonotis marchica* in Slovakia is interesting since in the all surrounding countries the species occurs very rarely. This is a single recently confirmed locality in Slovakia.

Seven species of the genus *Philonotis* are reported in the previous Czechoslovakia (PILOUS & DUDA 1960):

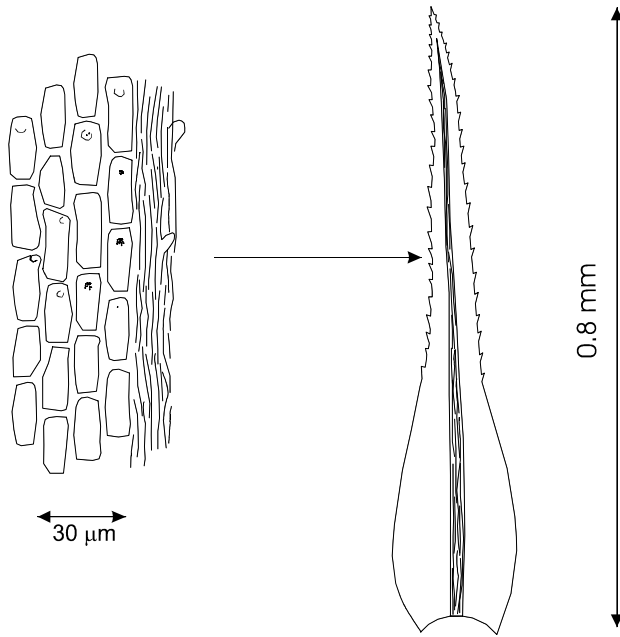
*Philonotis calcarea* (Bruch & Schimp.) Schimp. is frequent in Slovakia. It is a robust plant, creating pale to bright or yellowish-green patches, strict calcicole, grows in fens or springs in lowlands and mountains.

*Philonotis seriata* Mitt. is frequent in Slovakia in acidic or neutral springs, flushes or wet places from lowlands up to mountains.

*Philonotis fontana* (Hedw.) Brid. occurs in Slovakia in wet places in the mountains.

*Philonotis tomentella* Molendo occurs in Slovakia frequently, often descends down the rivulets to lower sites (e.g. Strečno settlement, PILOUS, pers. cont.).

*Philonotis caespitosa* Wils. in Slovakia is a rather rare species. It grows scattered in marshes and flushed rocks from lowlands to foothills, mainly in the Czech Republic, but was collected in Slovakia as well (Malá Fatra Mts., Orava region).



**Fig. 1. *Philonotis marchica*, cells from upper part of leaf near nerve (distal mamillae) and leaf.**

Two tiny species are left - *Philonotis marchica* (fig. 1) and *Philonotis arnellii*. *Ph. marchica* is a rare species in both Slovak and Czech republic. These two species are easily confused. MÖNKEMEYER (1927):

- Plants tiny, slender, shoots capillarious, 3 cm long, leaves lanceolate, apex acuminate to longly acuminate - *Philonotis arnellii*.
- Plants larger, to 10 cm tall, leaves ovate - lanceolate, margin toothed, cells pellucid - *Philonotis marchica*.

SMITH (1978):

- Most cells with mamillae near upper ends (i. e. distal), plants 1-5 cm tall – *Philonotis marchica*.
- Cells in lower ½ of leaf smooth, upper cells smooth or with distal mamillae, plants slender, 0.5 – 1,0 cm tall – *Philonotis arnellii*.

*Philonotis arnellii* looks like young sterile shoots. Distal mamillae on the cells are typical for both the species, while *Ph. arnellii* has cells in lower part of the leaf smooth. All the records of *Ph. arnellii* in Slovakia (ŠMARDKA 1948, 1952) need revision. *Philonotis marchica* was rediscovered in the Czech Republic after almost 50 years. The moss was collected in a limestone quarry Kotouč, near the town of Štramberk (North Moravia) (BURYOVÁ & HRADÍLEK 2006).

*Philonotis marchica* is red-listed, in the Red list of bryophytes of Slovakia (KUBINSKÁ, JANOVIČOVÁ & ŠOLTĚS 2001) evaluated as vulnerable.

## Acknowledgements

The autor is indebted to Blanka Buryová for reliable determination of the specimen.

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Received: January 25<sup>th</sup> 2008  
Revised: March 20<sup>th</sup> 2008  
Accepted: March 20<sup>th</sup> 2008