

The glacial relic moss species *Helodium blandowii* in the Veporské vrchy Hills (Slovakia)

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ABSTRACT: During a botanical trip to Veporské vrchy on October, 21, 1999, *Helodium blandowii*, a glacial moss relic species was found. The species occurs in a minerotrophic fen near the settlement of Pohronská Polhora. This is the most southerly occurrence in Slovakia.

Key words: Bryophytes, *Helodium blandowii*, Veporské vrchy, Slovakia

Helodium blandowii (F. Weber et D. Mohr) Warnst. is considered a glacial moss relic species (SZAFRAN 1948; KARCZMARZ 1963; RYBNÍČEK 1966; ŠMARDA 1954, 1960 and others).

The species is widespread in the low arctic, boreal and temperate zones of the northern hemisphere, most predominantly in the boreal zone (LEWINSKY & MOGENSEN 1979). Its distribution is subarctic-alpine (DÜLL 1994a,b).

In the Checklist of non-vascular and vascular plants of Slovakia (KUBINSKÁ & JANOVIČOVÁ 1998) the species is evaluated as „E“ (endangered, IUCN category).

Veporské vrchy Hills are not a very large orographic unit of Slovakia. The highest point is Fabova hoľa (1439 m a.s.l.). 262 bryophyte species were recorded in this area of 890 km² (ŠOLTÉS 1996), so, the territory has only been poorly explored from bryological point of view.

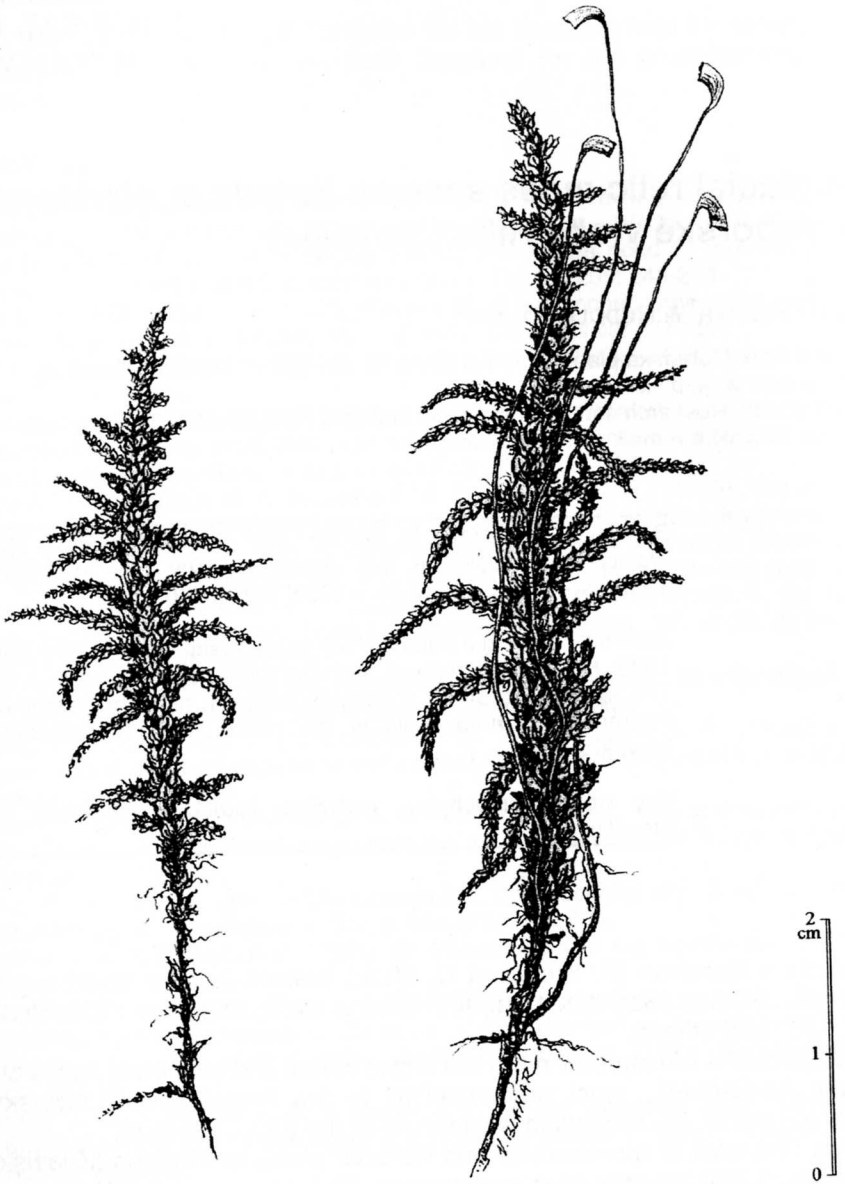


Fig. 1. *Helodium blandowii*: plant, habitus (drawn by VINCENT BLANÁR)

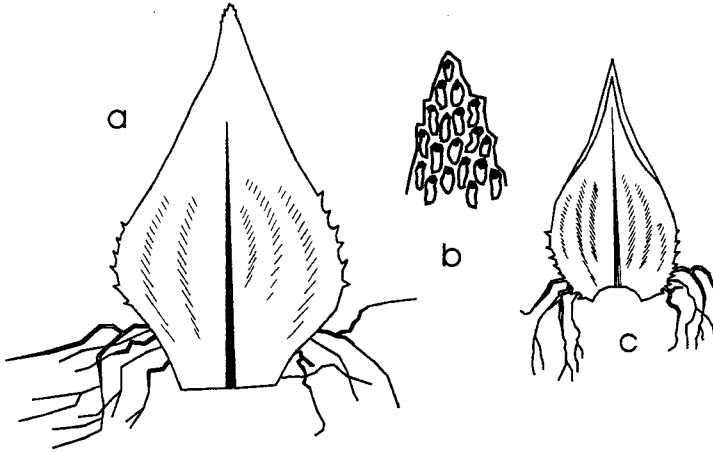


Fig. 2. *Helodium blandowii*: a, stem leaf; b, stem leaf apex; c, branch leaf (drawn by RUDOLF ŠOLTÉS)

The occurrence, ecology or phytocoenology of *Helodium blandowii* has, up to present, been reported in Slovakia by ŠMARDA (1948, 1954, 1960), RYBNÍČEK & RYBNÍČKOVÁ (1965), RYBNÍČEK & RYBNÍČKOVÁ (1972), PILOUS (1992), VÁŇA & SOLDÁN (1995), ŠOLTÉS (1998), ŠOLTÉS et al. (1998, 1999) and ŠOLTÉS (2000).

Distribution map of *Helodium blandowii* in Poland was published by SZAFRAN (1948) and by KARCZMARZ (1963), and in Slovakia by VÁŇA & SOLDÁN (1995), ŠOLTÉS et al. (1998), and ŠOLTÉS (2000).

Recently, the species has been recorded and confirmed in the following five locations in Slovakia: Orava Basin, near the town of Trstená; Poprad Basin, near the town of Spišská Belá; Volovské vrchy Hills, the fen Žompy between Hnilčík and Bindt settlements; Volovské vrchy Hills, wooded fen near the town of Nálepko; Bukovské vrchy Hills, near settlement of Nová Sedlica. In general, the species prefers minerotrophic fens, but endures progressive successional stages, thrives in wooded fens as well. Destruction of fens, wet meadows and other wetlands in the past has led to the loss of suitable sites for *Helodium blandowii* in Slovakia.

A new occurrence for the species was found in Veporské vrchy Hills, in the foothill of Fabova hoľa, this is the most southern location in Slovakia. Floristical composition and ecology of this location doesn't essentially differ from the rest of sites.

The species is easily recognised in the field with a help of hand lens. The stem is irregularly pinnately branched (Fig. 1). Stem and branch leaves are with paraphyllia at basal angles, the branch leaves being much smaller (Fig. 2).

Relevé

Location: Veporské vrchy Hills, foothill of Fabova hoľa, minerotrophic fen near settlement of Pohronská Polhora, 670 m a.s.l. area 3 x 7 m, cover: total 100%, E₁ 90% E₀ 95%, October 21, 1999.

E₁

Carex rostrata 3, *Eriophorum angustifolium* 2m, *Carex nigra* 2b, *Carex panicea* 2a, *Agrostis stolonifera* 2m, *Potentilla erecta* 1, *Viola palustris* 1, *Achillea millefolium* agg. +, *Briza media* +, *Carex echinata* +, *Cirsium palustre* +, *Drosera rotundifolia* +, *Epilobium palustre* +, *Valeriana simplicifolia* +, *Equisetum fluviatile* +, *Equisetum sylvaticum* +, *Filipendula ulmaria* +, *Galium uliginosum* +, *Hypericum maculatum* +, *Juncus conglomeratus* +, *Lysimachia vulgaris* +, *Lythrum salicaria* +, *Parnassia palustris* +, *Salix caprea* +, *Scirpus sylvaticus* +, *Scutellaria galericulata* +, *Dactylorhiza majalis* r, *Caltha *laeta* r, *Mentha arvensis* r.

E₀

Sphagnum fallax 3, *Aulacomnium palustre* 2b, *Sphagnum centrale* 2b, *Hypnum pratense* 2m, *Sphagnum capillifolium* 2m, *Sphagnum teres* +, *Helodium blandowii* +, *Bryum pseudotriquetrum* +, *Climacium dendroides* +, *Plagiomnium ellipticum* r, *Aneura pinguis* r, *Campylium stellatum* r, *Calliergon cordifolium* r, *Eurhynchium speciosum* r, *Lophocolea bidentata* r.

The nomenclature of bryophytes follows KUBINSKÁ & JANOVICOVÁ (1998), that of vascular plants MARHOLD (1998). The phytosociological relevé was recorded according to the BRAUN-BLANQUET approach (WESTHOF & VAN DER MAAREL 1973), the nine-grade cover scale (r, +, 1, 2m, 2a, 2b, 3, 4, 5), which enables transformation for numerical processing, was used.

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