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MINOR CONTRIBUTION TO THE BRYOFLORA OF THE CSERHÁT MTS (HUNGARY)

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The results of bryofloristical excursions into the surroundings of Cserhátszentiván, Cserhát Mts, Hungary, are presented. 78 bryophyte taxa (12 liverworts, 66 mosses) were found. Three moss species are reported as new for the area: *Bryum alpinum*, *Fissidens arnoldii*, and *Tortula latifolia*. *Fissidens arnoldii*, a rare species in Europe, endangered in Hungary, is first reported east of the Danube. A new record of *Hedwigia stellata* from Szanda, Cserhát Mts, is also reported.

Key words: bryophytes, *Bryum alpinum*, Cserhát Mts, *Fissidens arnoldii*, *Hedwigia stellata*, Hungary, *Tortula latifolia*

Although situated close to the Hungarian centres of bryophyte research, Eger and Budapest, the bryoflora of the Cserhát Mts has received less attention than other, more spectacular mountain areas nearby, e.g. the Börzsöny Mts or the Mátra Mts. Therefore, the results of two excursions to the surroundings of Cserhátszentiván are presented here. The nomenclature of liverworts follows GROLLE and LONG (2000), that of mosses KOPERSKI et al. (2000). Herbarium specimens are in the private herbarium of the author, a duplicate of the *Fissidens arnoldii* specimen is deposited in BP.

The Cserhát Mts are situated *ca* 70 km NNE of Budapest. The highest elevation is Szanda hill (528 m). The valleys of the creeks Zsúnyi-patak and Cserkúti-patak, tributaries of Szuha-patak, SW of Cserhátszentiván were visited in August 2001, as well as the adjacent Bézma hill (513 m).

Apart from the bryophytes growing near the creeks on rock (*Barbilophozia barbata, Lejeunea cavifolia, Amblystegium tenax, Brachythecium populeum, Didymodon tophaceus, Eurhynchium crassinervium, Fissidens arnoldii, Grimmia ovalis, Hedwigia ciliata* var. *ciliata, Homalothecium sericeum, Leskea polycarpa, Platyhypnidium riparioides, Schistidium apocarpum, Tortula latifolia*), soil and dried mud (*Lophocolea bidentata, Barbula unguiculata, Fissidens taxifolius, Phascum cuspidatum, Physcomitrium pyriforme, Plagiothecium cavifolium, Pohlia melanodon, Tortula subulata* var. *angustata*) or at the base of trees (*Anomodon attenuatus, Herzogiella seligeri*), some mosses (*Grimmia laevigata, G. muehlenbeckii*) growing on sunny siliceous rock outcrops east of Cserkúti puszta, close to Cserkúti-patak, were also collected (Table 1, first column). The second excursion to Bézma hill focused on its western slope. There are a few places where the volcanic bedrock is replaced by limestone. Thus some calcicolous species like *Porella platyphylla, Anomodon viticulosus, Homomallium incurvatum* could be found.

Table 1. Species list.

Species	Zsúnyi- and Cserkúti- patak	Bézma hill
LIVERWORTS		
Barbilophozia barbata	+	+
Cephaloziella divaricata	+	
Frullania dilatata		+
Lejeunea cavifolia	+	
Lophocolea bidentata	+	
Lophocolea heterophylla	+	
Marchantia polymorpha	+	
Metzgeria furcata	+	+
Pellia endiviifolia	+	
Plagiochila porelloides	+	
Porella platyphylla		+
Radula complanata	+	
MOSSES		
Amblystegium serpens		+
Amblystegium tenax	+	
Anomodon attenuatus	+	+
Anomodon viticulosus		+
Atrichum undulatum	+	+
Barbula unguiculata	+	
Brachythecium populeum	+	+
Brachythecium rutabulum	+	+
Brachythecium salebrosum	+	
Brachythecium velutinum	+	+
Bryum alpinum		+
Bryum argenteum	+	+
Bryum capillare	+	+
Bryum subelegans		+
Ceratodon purpureus	+	+
Cratoneuron filicinum	+	
Dicranella heteromalla	+	
Dicranella schreberiana	+	
Dicranum scoparium	+	+
Didymodon tophaceus	+	
Eurhynchium crassinervium	+	
Eurhynchium hians	+	+
Fissidens arnoldii	+	
Fissidens pusillus	+	
Fissidens taxifolius	+	+
Funaria hygrometrica		+
Grimmia hartmanii	+	+
Grimmia laevigata	+	+
Grimmia muehlenbeckii	+	
Grimmia ovalis	+	+
Grimmia pulvinata	+	+
Hedwigia ciliata var. *ciliata*	+	+

Table 1 (continued)

Species	Zsúnyi- and Cserkúti- patak	Bézma hill
Hedwigia ciliata var. *leucophaea*		+
Herzogiella seligeri	+	
Homalothecium sericeum	+	+
Homomallium incurvatum		+
Hypnum cupressiforme	+	+
Isothecium alopecuroides	+	
Leskea polycarpa	+	+
Leucodon sciuroides		+
Mnium stellare	+	
Paraleucobryum longifolium		+
Phascum cuspidatum	+	
Physcomitrium pyriforme	+	
Plagiomnium affine	+	+
Plagiomnium cuspidatum		+
Plagiomnium undulatum	+	
Plagiothecium cavifolium	+	
Plagiothecium laetum		+
Platygyrium repens		+
Platyhypnidium riparioides	+	
Pohlia melanodon	+	
Pohlia nutans		+
Polytrichum piliferum	+	
Pseudoleskeella nervosa		+
Pylaisia polyantha		+
Rhizomnium punctatum	+	
Schistidium apocarpum s. str.	+	+
Taxiphyllum wissgrillii	+	
Thuidium abietinum	+	
Thuidium philibertii		+
Tortula latifolia	+	
Tortula ruralis	+	+
Tortula subulata var. *angustata*	+	
Tortula subulata var. *subulata*		+
Tortula virescens		+

Most species on the list (Table 1, second column), however, are plants typical of siliceous rocks (*Barbilophozia barbata, Grimmia hartmanii, G. laevigata, G. ovalis, Hedwigia ciliata* var. *ciliata* and var. *leucophaea, Paraleucobryum longifolium*), or grow as epiphytes on trees (*Frullania dilatata, Metzgeria furcata, Bryum subelegans, Homalothecium sericeum, Hypnum cupressiforme, Leskea polycarpa, Leucodon sciuroides, Platygyrium repens, Pseudoleskeella nervosa, Pylaisia polyantha, Tortula virescens*).

Three species seem to be new to the Cserhát Mts according to the standard works of Hungarian bryology (BOROS 1968, ORBÁN and VAJDA 1983).

Bryum alpinum, growing on soil in open siliceous grassland at the western slope of Bézma hill, has not been reported from Cserhát Mts before; it occurs, however, in the neighbouring Börzsöny Mts and Mátra Mts (BOROS 1968).

Tortula latifolia had been found only at the base of trees or on thatched roofs in the inundation area of the rivers of Danube and Tisza. The occurrence on top of a stone in Zsúnyi-patak is the first record from a hilly district in Hungary. Perhaps it has been overlooked in this type of habitat, or it has been extending its range within the last decades. It seems likely that it can be found also along other creeks in andesitic hills.

The distribution of *Fissidens arnoldii* in Hungary has been recorded in great detail by BOROS (1951, 1968). Although Boros considers this plant to be a characteristic species of springs and small flushes in calcareous districts, he found it only in the vicinity of water mills. All known sites of occurrence of *Fissidens arnoldii* have recently been checked, but apart from a newly discovered locality the plant could be refound in two places only (PAPP et al. 2000, with distribution map). Therefore, *Fissidens arnoldii*, a rare species in Europe (ECCB 1995), is now considered to be endangered in Hungary (PAPP et al. 2000). The record from Cserhátszentiván, on a flat stone in the creek Cserkúti-patak, together with *Amblystegium tenax* (teste B. Papp and M. Ahrens), extends the area of *Fissidens arnoldii* to the east of the river Danube.

Another new record from the Cserhát Mts concerns the moss *Hedwigia stellata*, a species described only recently (HEDENÄS 1994). The occurrence of this plant in Hungary has been demonstrated in a study of herbarium specimens (ERZBERGER 1996), and the three known localities (Sukoró in the Velence Mts, Berceli-hegy in the Cserhát Mts, and Gyöngyössolymos in the Mátra Mts) have been checked recently by the author. *Hedwigia stellata* could be refound only in the Mátra Mts, but a new locality has been detected in Cserhát Mts in 2000: Hungary, Nógrád county, Szanda hill south of the village Szanda, on andesitic boulder facing south near the path leading to the castle ruin (leg: P. Erzberger, 23 April 2000).

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