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BRYOPHYTES OF THE "URBANOWO" NATURE RESERVE IN THE WIELKOPOLSKA REGION

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Abstract. This study presents a list of 28 bryophyte taxa in a forest nature reserve, "Urbanowo", including e.g. localities of *Homalia trichomanoides* and *Isothecium alopecuroides*.

Key words: bryophytes, liverworts, mosses, nature reserves, Urbanowo, Wielkopolska, Poland

INTRODUCTION

Mosses of nature reserves in the Wielkopolska region have been investigated in relatively few detailed floristic studies. Some locations subsequently covered by legal protection had been examined in bryological studies in the period between WWI and WWII. These locations include the "Buki nad Jeziorem Lutomskim" and "Buczyna" nature reserves (Krawiec 1934), as well as the region of Ludwikowo (Mondelska 1932). The bryophyte flora has been described specifically in such nature reserves as "Pod Dziadem" (Balcerkiewicz & Rzepka 1996), "Meteoryt Morasko" (Urbański 1996) and "Dolina Kamionki" (Antkowiak et al. 2008). The liverwort flora has been presented for nine locations within the Wielkopolskie province (Górski 2006a, b, c, 2007a, b, c). Moreover, localities of many moss and liverwort species from the Wielkopolska region are published in the scientific bulletin of the Bryological Section of the Polish Botanical Society, within the series entitled "New distributional data on bryophytes of Poland" (editors P. Górski and A. Rusińska, see www.up.poznan.pl/steciana).

In recent years, for the purpose of Protection Plans for Nature Reserves, data on the bryophyte flora have been collected for several nature reserves in the Wielkopolska region (Dąbrowa koło Biadek Krotoszyńskich, Kozie Brody, Las Łęgowy w Dolinie Pomianki, Olbina, Uroczysko Jary, Wilcze Błoto, Wyspa Konwaliowa) and they will be successively prepared for print.

To date the "Urbanowo" nature reserve has not been the object of detailed bryological studies. Previous knowledge on mosses in that location was limited to data presented in geobotanical studies by Wojterski (1960) and Ferchmin (1980). These data concern epigeic bryophytes, which were documented when preparing phytosociological relevés. This publication presents the entire bryophyte flora of this nature reserve.

PROFILE OF THE RESERVE

The "Urbanowo" nature reserve is located in the Wielkopolskie province, the Nowy Tomyśl county, the Opalenica commune. It is 7.73 ha in area. It covers the entire forest compartment 179a, a part of the Konstantynowo Forest District. The location of extreme points in the reserve is as follows: 52°16'43.15"N and 16°25'38.26"E, 52°16'46.51"N and 16°26'01.91"E, 52°16'38.77"N and 16°25'39.24"E, 52°16'38.67"N and 16°26'02.38"E. In terms of the physico-geographical division of Poland (Kondracki 2001) the nature reserve is located in the lake districts: Pojezierze Wielkopolsko-Kujawskie and Pojezierze Poznańskie, and the Równina Opalenicka plain. In the geobotanical division of Poland according to Szafer (1972) the reserve is located in the Central European Lowland-Highland Subprovince, the Baltic Division, the Belt of the Great Valleys, the Great Poland-Kujawy Section and the Poznań–Gniezno District.

In terms of its geomorphology this area is a bottom moraine plain, located on a flat floodplain of the

Mogilnica river. The area of the nature reserve is located within the Würm glaciation zone, in the area of ground moraines of the Leszno stadial (Wojterski 1960, Ferchmin 1980). One soil type is found in the entire area of the reserve – black mucky soil, formed from heavy loamy sands overlying loam (Ferchmin 1980). Erratics are found in the south-eastern part of the reserve.

The entire nature reserve is a forest ecosystem. It comprises alder-ash riparian forests (*Fraxino-Alnetum* W. Mat. 1952) and elm-ash riparian forests (*Querco-Ulmetum* Issler 1924).

MATERIALS AND METHODS

The study of the bryophyte flora was conducted in September 2006 by identifying all species within approx. 30 m from selected points distributed relatively uniformly throughout the reserve. Herbarium materials were deposited at the Herbarium of the Department of Botany, the Poznań University of Life Sciences (POZNB).

The liverwort nomenclature was adopted after Szweykowski (2006), while that of mosses – after Ochyra et al. (2003).

RESULTS AND DISCUSSION

The bryophyte flora in the "Urbanowo" nature reserve is represented by 25 moss species (and 2 varieties) and two liverwort species (Table 1). These plants belong to 16 families, of which the following are most numerous in species: Hypnaceae (5), Plagiomniaceae (5), Brachytheciaceae (3), Amblystegiaceae (3) and Dicranaceae (3). Unique floristic features of the reserve include mosses *Homalia trichomanoides* and *Isothecium alopecuroides*, the former of which is very rarely found in Wielkopolska. It was last reported in the "Dolina Rzeki Kamionki" reserve (Górski 2007a, Antkowiak et al. 2008). It is found

Table 1. A list of bryophytes in the "Urbanowo" nature reserve

No.	Species	Division	Number of localities in nature reserve			Epiphytes	Epixylic	Epilithic	Epigeic
			Wojterski (1960)	Ferchmin (1980)	original				
1	*Lophocolea heterophylla* (Schrad.) Dumort.	L			11				
2	*Ptilidium pulcherrimum* (Weber) Vain	L			1	1			
3	*Amblystegium serpens* (Hedw.) Schimp.	M			1	1			
4	*Atrichum undulatum* (Hedw.) P. Beauv.	M		6	3				3
5	*Aulacomnium androgynum* (Hedw.) Schwaegr.	M			2	1		1	
6	*Brachythecium rutabulum* (Hedw.) Schimp.	M		2	5	2			5
7	*Bryum caespiticium* Hedw.	M			1				1
8	*Calliergon cordifolium* (Hedw.) Kindb.	M		1					
9	*Calliergonella cuspidata* (Hedw.) Loeske	M	1		4	1	1		2
10	*Ceratodon purpureus* (Hedw.) Brid.	M			1				1
11	*Dicranum scoparium* Hedw.	M			4	4			
12	*Herzogiella seligeri* (Brid.) Z. Iwats.	M			4		4		
13	*Homalia trichomanoides* (Hedw.) Schimp.	M			1				1
14	*Hypnum cupressiforme* Hedw. var. *cupressiforme*	M		2	11	9	2	4	
15	*Hypnum cupressiforme* Hedw. var. *filiforme*	M			1	1			
16	*Isothecium alopecuroides* (Lam. ex Dubois) Isov.	M			3	1		3	
17	*Leptodictyum riparium* (Hedw.) Warnst.	M			2		2		1
18	*Mnium hornum* Hedw.	M			8	4	2		5
19	*Orthodicranum montanum* (Hedw.) Loeske	M			4	4			
20	*Orthotheciella varia* (Hedw.) Ochyra	M			1	1	1		
21	*Oxyrrhynchium hians* (Hedw.) Loeske	M	1	6	3		1		4
22	*Plagiomnium affine* (Blandow ex Funck) T.J. Kop.	M	1						
23	*Plagiomnium cuspidatum* (Hedw.) T. Kop.	M			2				2
24	*Plagiomnium elatum* (Bruch & Schimp.) T.J. Kop.	M		2					
25	*Plagiomnium undulatum* (Hedw.) T.J. Kop.	M	2	5	6	2	1	1	4
26	*Plagiothecium nemorale* (Mitt.) A. Jaeger.	M			4		1		3
27	*Rosulabryum laevifilum* (Ness) Ochyra	M			2		1	1	
28	*Sciuro-hypnum oedipodium* (Mitt.) Ign. & Huttunen	M			1		1		

Explanations: L – liverworts, M – mosses.

in one locality in the "Urbanowo" reserve, on erratics in the south-eastern part of the reserve. It should be added here that this moss is considered a relict species of lowland primeval forests (Cieśliński et al. 1996). The other species, i.e. *Isothecium alopecuroides*, also regionally rare, is found in three localities, on the bark of lower tree trunk sections and on erratics.

Three epigeic species, previously reported in earlier phytosociological studies conducted in the nature reserve (Wojterski 1960, Ferchmin 1980), were not found in the course of the study conducted in 2006. They were mosses *Calliergon cordifolium, Plagiomnium affine* and *P. elatum*. This may be associated with changes in the moisture levels in the forest sites of the investigated area. In the first half of the 20th century alder swamp forests and transitional forests between alder swamp forests and ash-alder riparian forests were found in the reserve (Wojterski 1960). In the successive years only phytocenoses of the ash-alder riparian forest were documented in that area (Ferchmin 1980).

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