

## **New locality of moss *Buxbaumia viridis* (Moug. ex Lam. & DC.) Brid. ex Moug. & Nestl. in relation to its distribution in the Beskid Sądecki range (Western Carpathians, Poland)**

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Abstract: Moss *Buxbaumia viridis*, considered as an endangered species, was found in a new locality in the Beskid Sądecki range. This paper presents new data about the species together with a summary of previously published stations in this area. All known distribution of the moss in Beskid Sądecki range is presented on the map.

Key words: *Buxbaumia viridis*, Beskid Sądecki Mts, Special Area of Conservation Ostoja Popradzka, endangered species, Poland

### **Introduction**

*Buxbaumia viridis* is a boreal-montane species with discontinuous range. Generally it is considered as Euro-American species. Localities known in China have rather an extrazonal character (Szmajda et al. 1991).

In Poland *B. viridis* occurs in forests dominated by *Fagus sylvatica*, *Picea abies* and *Abies alba*. The species was recorded in *Quercetea robori-petraeae* or *Vaccinio-Piceetea* communities (Stebel 2004).

On the “Red List” of Polish Mosses (Żarnowiec et al. 2004) *B. viridis* was included into endangered category (E). According to the European “Red List” of bryophytes, *B. viridis* is considered as vulnerable species (Schumacker & Martiny 1995). The species is legally protected in Poland (Order 2012) and in Europe (see Council Directive from 1992).

The first information about the localities of *B. viridis* in Beskid Sądecki range was presented at the beginning of 70's of the 20 century (Mamczarz 1971, 1977). Consequently, for over thirty years any new station of the moss was described there. New data from this region were published only in the beginning of 21 century (Cykowska 2008).

### **Material and Methods**

The research was carried out by patrol method. Primarily the typical habitats of *B. viridis* such as shaded valley of the streams in the beech or beech and fir forests were examined. Special attention was paid to wet and damp logs.

Nomenclature follows the paper written by Ochrya et al. (2003).

Bordered of studied area was used according to Kondracki (2009).

### **Results**

#### *New locality*

New locality of the *B. viridis* was found in 20. VII. 2012 during an inventory of habitats in the Special Area of Conservation “Ostoja Popradzka” - PLH120019. It was located in the valley of tributary of the Sielski Potok stream in altitude about 720 m. GPS position is: 49°26'30,3''N and 20°32'04,3''E. Only one capsule of the moss was found on a rotten log of a fir. The station is situated in Ge 34 in the ATMOS grid square. Phytocoenosis of this place

should be defined as an association of *Dentario glandulosae-Fagetum*. This forest has a natural character but is also subject to forest management.

#### *Localities published before 2000*

1) Baniska Nature Reserve, in the humus soil on the road, ATMOS grid square Ge 34, (Mamczarz 1971);

2) valley of the Sopotnicki stream, on the path from Szczawnica towards Prehyba, ATMOS grid square Ge 33;

3) N of Łabowa, mixed forest, on the path to Tokarnia, on a log of a fir, alt. 740 m; ATMOS grid square Ge 26, (remark: this locality quoted by Mamczarz (1977), but in accordance with established borders of mezoregions it is located in the Beskid Niski range);

4) slope of Jaworzyna Krynicka Mt, scarp on the way, ATMOS grid square Ge 36, (Mamczarz 1977).

#### *Localities published after 2000*

1) NW border of Nad Kotelniczym Potokiem Nature Reserve, on a spruce log on right bank of Kotelniczy Potok stream, alt. 856 m. GPS position is: 49°26'36" N, 20°34'16" E, Carpathian beech forest, 1 matured capsule, ATMOS grid square Ge 34, (remark: Cykowska (2008) incorrectly attributed this locality to ATMOS grid square Ge 33, since it is in ATMOS grid square Ge 34);

2) In the intermittent stream between the Podjabconiowy Potok and Zimna Woda streams, on decaying piece of spruce wood amongst brushwood, 100 metres of the left side of blue tourist route to Przehyba pass, alt. 648 m. GPS position is: 49°26'40" N, 20°30'26" E, in spruce forest, 1 capsule, ATMOS grid square Ge 33,

3) Near blue touristic route from Szczawnica to the Przehyba pass, on uprooted spruce stump on the right-hand side of the Pod Górami stream, alt. 642 m. GPS position is: 49°26'37" N, 20°30'21" E, in spruce forest, 19 capsules, ATMOS grid square Ge 33 (Cykowska 2008).

### **Conclusion**

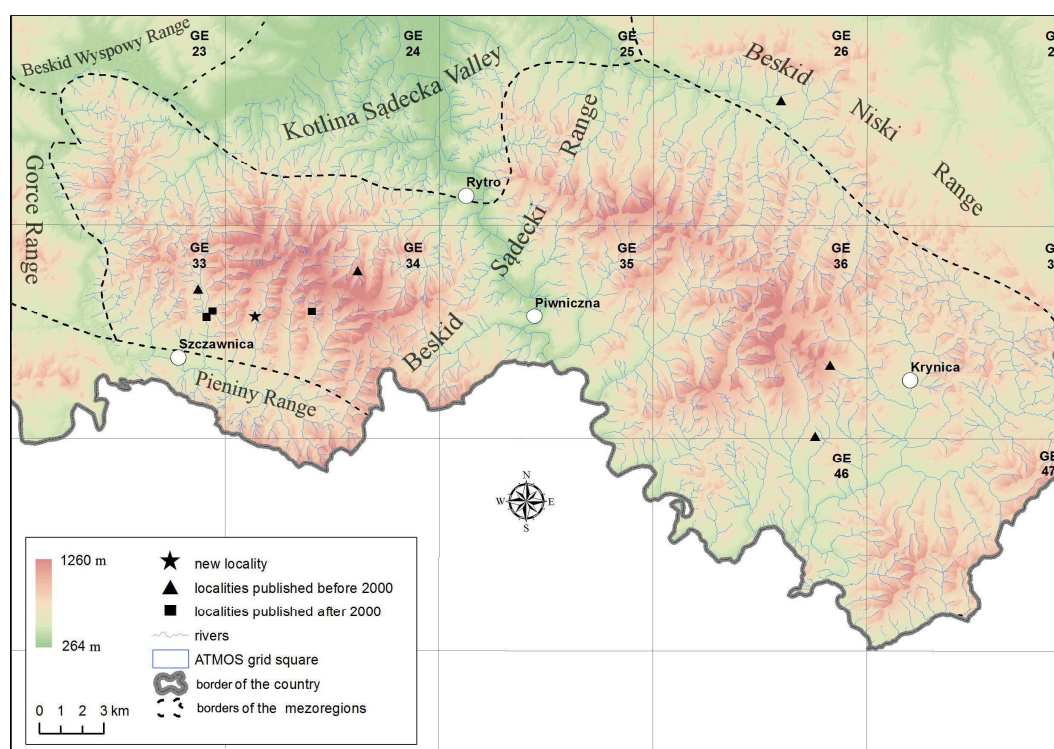
Over the past five years the species has been recorded several times in different regions of the Poland (Cykowska 2008, Vončina et al. 2011, Kozik & Vončina 2012, Zarzecki 2012). Comparing to the period between 1951 and 2000 the increase in the number of reported posts is observed. The reason seems to be intensive monitoring of the species in the context of Natura 2000. The implementation of this program in Poland resulted in increased interest in species and the need to monitor its population.

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**Map 1:** Distribution of moss *Buxbaumia viridis* in the Beskid Sądecki range (S Poland)

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