

BRYOPHYTES OF THE HIGH SUDETES (the Czech Republic)

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High Sudetes have been subject to the intense bryological survey in 2001-2003. The authors focused on glacial cirques and comparable biotopes in two mountain regions in Czech part of the High Sudetes Mts.: in the **Krkonoše Mts.** (Kotel Mt. with Kotelní jámy ravines, Labský důl valley and Úpská jáma cirque) and the **Hrubý Jeseník Mts.** (Velká and Malá kotlina cirques and Sněžné strže ravines).

Significance of glacial cirques

- The most significant centres of biodiversity in the Czech Republic
- Refugium of arctic-alpine species of bryophytes in the territory
- Important connecting bridge between Alpic and Scandinavian floras



Labský důl (Krkonoše)



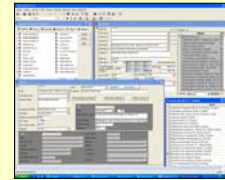
Úpská jáma (Krkonoše)



Velká kotlina (Hrubý Jeseník)



Malá kotlina (Hrubý Jeseník)



Preview of database

Aims of the research

1. Revision of historical data
2. Own bryofloristic survey
3. Assembling basic ecological characteristics and frequencies of occurrence for all the recorded bryophytes
4. Assembling population-ecological characteristics for selected bryophytes

Results

Data acquired

1. Excerpton of ca. 18.500 published data excerpted from 340 publications
2. Revision of 1.200 historical herbarium specimens of critical species, ca. 6.000 herbarium specimens collected, ca. 8.300 field notes recorded
3. Characteristics of substrate, relief, exposition, inclination, moisture, shading, thickness of humus, presence of sporophytes, gemmae production, abundance - total ca. 100.000 records
4. For 40 selected species, population size (number of shoots and area covered), shoot density, number of sporophytes, potentially colonizable substrate and phytosociological relevés (80 in total) were noted in addition to 'standard' record

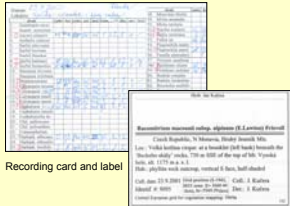
All collected data have been stored and cross-linked in the relational MS Access database. This enables us to acquire complex information from studied localities.

Evaluation of High Sudetes Bryoflora

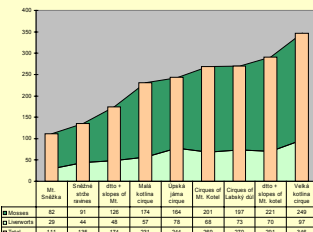
1. Ca. 465 bryophytes found, between ca. 230 and 345 taxa at each locality, 30-50% newly recorded
2. 5 new taxa were found new to the flora of the country, one of them pending the revisions (*Polilia nutans* subsp. *schimperii*, *Lescurea patens*, *Syntrichia norvegica*, *Isoeterygiopsis muelleriana*, *Hypnum sauteri*)
3. Some 20 putatively vanished species have been re-found or newly found (e. g. *Haplomitrium hookeri*, *Meselia uliginosa*, *Pseudoleskeella tectorum*, *Hypnum callichroum*, *Kaeria falcata*)
4. 10-20% of the historically reported taxa have not been confirmed at their localities. Among them, arctic-alpine and epiphytic species proved to be most often among the missing or strongly retreated species.
5. Quantitative data about demography of selected taxa enable direct evaluation of the threat status according to the IUCN methods

Conclusions

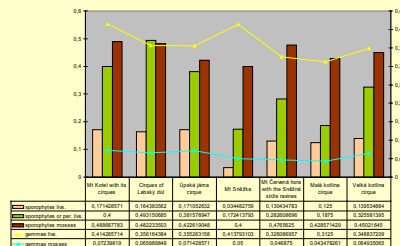
- High concentration of threatened taxa
- Extremely rich localities in bryophytes species
- Both appropriate survey methods and sufficient number of research team members are essential for detailed assessment of bryoflora of a certain area; methods are applicable for bryological survey of other habitats in the Czech Republic or abroad
- Data necessary for future evaluation of changes in the bryoflora assembled



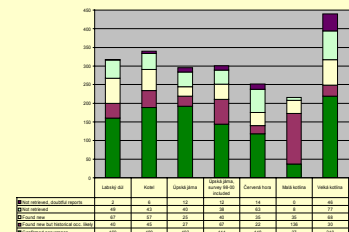
Recording card and label



Species richness



Fertility and gemmae production



Historical changes



Saelania glaucescens



Hypnum callichroum



Moorkia blyttii



Tetralophzia setiformis



Bryum schleicheri



Syntrichia norvegica



Lescurea mutabilis