

Bryophytes at lamps in show caves in the Czech Republic

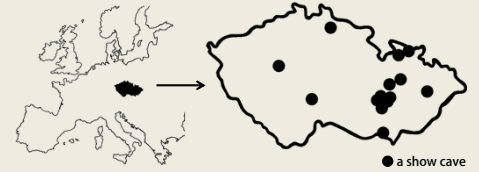
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aims | entrance

- investigate the present bryophyte flora of caves
- compare the bryophyte flora of the 1960s–70s, the period 1988–90 and the present one
- analyse growth form and life strategy sets



tunnel 1 | methods, study sites

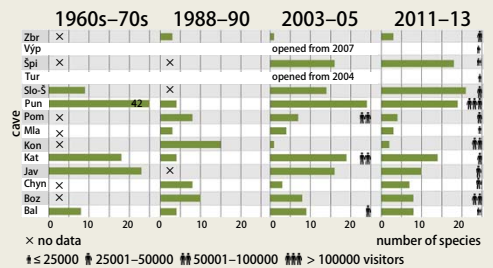
- bryophytes close to lamps in regular use in show caves were studied
- 14 show caves in the Czech Republic
- data collected in 2003–05 and 2011–13
- most caves formed in limestone, some in marble and dolomite
- even temperature (7–9 °C, only in two caves > 10 °C)
- high air humidity (95–100%, except one cave: 84–95%)
- duration of tour: 30–45 min in 7 caves, about 1 hr in 7 caves
- length of tour: 220–620 m in most caves, maximum length 1760 m
- three caves opened to public before 1900, most of them 1910–69, two after 2000

Frequently observed species are the common mosses *Amblystegium serpens*, *Brachythecium velutinum*, *Cratoneuron* spp., and *Fissidens taxifolius*. Some calcareous rock species occur at several sites – *Didymodon ferrugineus* and *D. rigidulus*, *Eucladium verticillatum*, *Fissidens gracilifolius*, and *Rhynchostegium murale*.

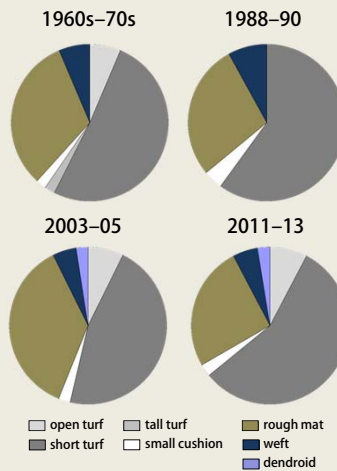
hall 2 | results, floristic data

In 2003–05, 12 caves were studied and 61 mosses were recorded; in 2011–13 I recorded 44 mosses in 14 caves. Total amount of mosses present in caves is 63. No liverworts were found. The highest species richness in a cave was 24. No species were found in two caves. The usual species richness is 4–16.

Number of species in show caves



hall 3 | results, growth forms



tunnel 2 | floristic data, past

In the 1960s–70s, five caves were studied (by Vaněčková and Šeda) and 51 species recorded. In 1988–1990, nine caves were searched (by Culek) and 24 mosses found.

In three caves (investigated both in the 1960s–70s and in 1988–90), 45% of the bryophyte flora has remained the same as in the past, 26% belong to newly recorded species and 29% represent species recorded only in the 1960s–70s or in 1988–90. During investigations 43 mosses (1960s–70s), 9 mosses (1988–90), 33 mosses (2003–05), and 28 mosses (2011–13), respectively, were recorded in these selected caves.

References

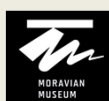
- Culek A. 1991: Mechorosty osvětlených částí veřejně přístupných jeskyní ČSFR. – Master thesis. [65 pp.]
 Šeda Z. 1962: Mechorosty Javoříšských jeskyní míru na Dražanské výsočině. – Unpublished thesis. [14 pp.]
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hall 4 | results, life strategies



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exit tunnel | summary

- altogether, 63 mosses were recorded in 2003–05 and 2011–13
- the present-day number of species in a cave varies from 24 to no species
- the most frequent growth forms are short turf and rough mat
- colonists and perennials are life strategies including most species
- 45% of the bryophyte flora has remained the same as in the past

hall 5 | small photogallery

