

Developing urban geotourism in Brno (Czech Republic)

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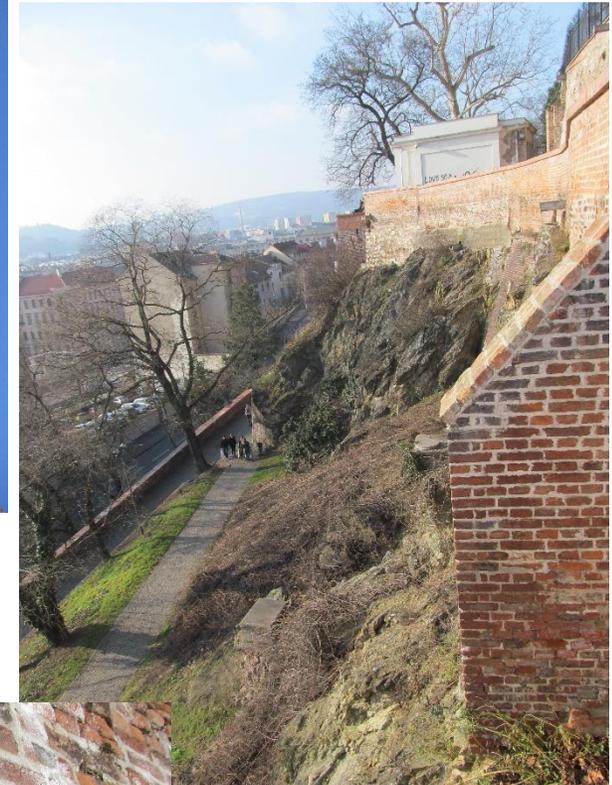


Content

- Geotourism within urban areas?
- Methods for identifying and inventorying geotourism resources
- Examples of geotourist resources in Brno
- Other activities related to the urban geotourism development
- Conclusions

Urban geotourism?

- Geotourism: a form of nature tourism that focuses on landscape and geology, but also on the biotic and cultural features that are linked to the abiotic nature (usually in rural/natural areas)
- In the last years, it is conceptually being developed also in urban areas, although the use of geology, geomorphology and related features (e.g. building stones or anthropogenic landforms) within urban areas for tourist and educational purposes is much older
- Tourism of visitable places anywhere in the city boundary (be they in the form of built heritage or of rock outcrops) that is related to geological concepts and features



Urban geotourism resources I

- Inventory of geotourism resources
 - 1) natural features – geological, geomorphological, hydrological, pedological or palaeontological
 - 2) cultural aspects related to geodiversity and geoheritage, e.g., building stone or toponyms linked to the geodiversity
- Sites of geotourist interest
 - 1) protected geosites and sites included in the national database of geological localities
 - 2) other natural sites (not included in the previous point), especially small outcrops or hydrological features
 - 3) geocultural sites and objects (e.g. anthropogenic landforms, geoarchaeological sites, buildings where the local material is used)

Urban geotourism resources II

- Advantages

- They represent sustainable resources
- They may be located in public spaces or parks, so they are easily available for the visitors and local inhabitants
- They supplement the traditional offer or represent an alternative to the traditional destinations
- No problems with opening hours or seasonality

- Disadvantages

- Conflicts with urban development: some significant outcrops can be damaged or destroyed by building activities
- Built heritage (use of local building material) – inappropriate reconstructions or adjustments, accessibility (inside the buildings or churches)
- Lack of the place for accompanying infrastructure (e.g. information panels – they are large or they could contribute to the visual smog if not designed properly, administrative or bureaucracy with placement of even small infopanel)

Study area

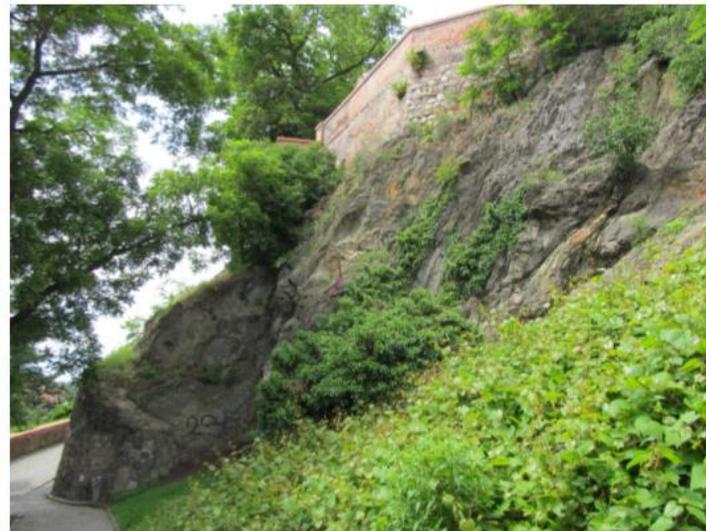
- Brno is situated on the contact of Bohemian Massif and Carpathian Foredeep
- High lithological diversity is reflected in the morphological, soil and hydrological diversity (geomorphodiversity, pedodiversity, hydrodiversity)
 - This has influenced the urban development and left an indelible imprint on the identity of the city, e.g. iconic decoration and building stone or landforms that contribute to the typical panorama or shape of the city.



Red conglomerate from Červený kopec and white Crinoidea limestone from Stránská skála: the colour of two iconic materials for Brno's Medieval architecture match with colours of the city.

Examples of geotourist sites

- Protected geosites and sites included in the national database of geological localities
 - The best examples of geotourist sites usually overlap with legally protected areas (Natural Monuments, Significant Landscape Elements). Some sites need a good interpretation as they are not very comprehensible for lay public



Significant landscape elements can represent an important geotourist resource: Žlutý kopec (Devonian conglomerates), Petrov (metabasalt outcrops).

Examples of geotourist sites II

- Other natural sites, especially small outcrops or hydrological features
 - Outcrops with lower scientific value, but with good accessibility or high aesthetic values
 - Soil profiles
 - A specific sub-group is represented by temporary exposures uncovered when digging the base for large buildings or when building underground constructions



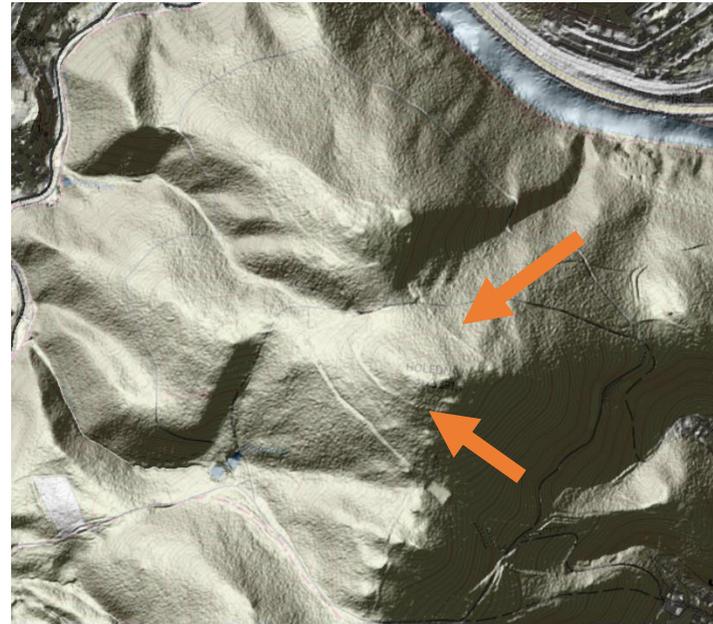
Studánka spring represents a hydrological feature just in the city centre. Temporary exposures near Švédské šance (in 2009) discovered Crinoidea limestone overlaid by Neogene sediments

Examples of geotourist sites III

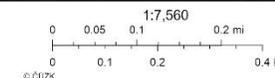
- Geocultural sites and objects
 - old quarries with a strong link to the built heritage or with an important socio-economic issue (emergency colonies), geocultural objects and built heritage, anthropogenic landforms



Obelisque at Denisovy sady Park with fossils.

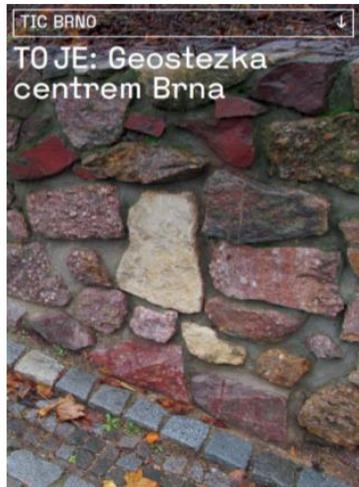


Digital elevation model of the Holedná hill with visible elongated structures – anthropogenic landforms (remains of the ramparts of the Bronze-Age fort)



Examples of geotourist activities

- Urban geotourism development needs to be driven by a multidisciplinary team that closely cooperates with local stakeholders
 - Tourist Information Centre, Municipal Office of Brno and Agency for Nature Conservation
- A geopath through city centre was proposed
 - It connects two significant sites of geotourist interest and icons of the city: Petrov and Špilberk
 - It covers several types of geotourist resources (both natural and cultural issues, both geosites, other sites and geocultural sites and objects)
 - <https://www.gotobrna.cz/poznejte-brno/poznejte-brno-geostezka-centrem-brna/>



The leaflet accompanying Geopath through Brno City Centre; guided walk for professional tourist guides had an aim to enrich information about traditional tourist sites.

Conclusions

- Urban geotourism has many **advantages** both for society and geodiversity
 - No seasonality
 - No special equipment
 - No opening hours
 - Accessibility
 - Alternative
- The need for **conceptual development** of urban geotourism
 - Different types of urban geotourism resources
 - Cooperation with local stakeholders
- Urban geotourism can significantly contribute to a **better understanding of geodiversity's functions in urban areas** and thus may help the **acceptation of conservation measures and sustainable management** proposals applied to different sites.

Thank you for your attention!

