Poster presentation

Anchialine caves in Croatian karst area

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The karst area covers more than 50 % of the Croatia. The whole Croatian coast of the Adriatic Sea is a karst region characterized by a porous limestone and semi-porous dolomites with some flysch, an impervious thin-layered sedimentary rock, as hydraulic barriers.

Over 9000 caves are known, many of which are located on the islands or along the coastline. Up till now only 64 anchialine caves are partially explored and/or described in the literature. All of the anchialine objects in Croatia are situated near the shoreline (less than 100 meters away) and most of them have a pit-like entrance. They are mostly small and not interesting for speleologists; the longest one is 245 m long cave Medvjeđa špilja and the deepest is Jama u Podstražišću pit with 45 m deep dry part and over 50 m deep water layers. Tides are more or less notable in all anchialine caves and in several caves a stream of fresh water flows over brackish and marine layers. Most of the caves don't have clear connection to the sea but a few, like cave Medova buža, have an open pathway.

There are few very specific anchialine caves in Croatia. For instance, the cave Rudnik kod Medveje is of artificial origin. This cave is a former borehole which was drilled in search for drinkable water. The caves Sumporača velika and Sumporača mala are anchialine caves with elevated concentrations of sulfur. Water and mud from these caves were used for medical purposes during the past. Cave Orljak is unique anchialine cave at the Adriatic coast because it is connected to the estuarine (brackish) water.

Some of the anchialine objects are interesting from a paleontological point of view like Vrtare Male Pit. This is one of the greatest finding sites of Pleistocene fauna, where the remnants of an elephant, horse, rhinoceros, lion, cave bear, wolf, deer, and a lot of micromammals and birds were excavated.

Anchialine caves are inhabited by phylogenetically and biogeographically interesting animal taxa. Deep-sea sponges are known from several localities. 21 various animal taxa was described from 7 anchialine caves: Veštar, Jama iznad Vrulja, Jama Bač II, Živa voda, Supurina, Jama na Badiji, and Šipun. The most remarkable is the cave Šipun, it is a type of locality with 14 animal taxa, 8 troglobionts, 2 troglophiles, and 4 stygobionts.

Intensive tourism, pollution, and rapid urbanization are major causes for endangerment of anchialine habitats. All speleological objects as well as all subterranean fauna is strictly protected by the Croatian laws, however, active protection is still missing.