

PRESERVATION OF CAVE FLOOR AND ITS IMPORTANCE FOR INTERPRETATION

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Abstract: The cave consists of floor, walls and ceiling. The conservation and interpretation of cave floor is often neglected at the expense of parts of the cave rich in cave inventory. Some managers are showing sensitivity to floor conservation and interpretation. They manage cave infrastructure in a way the least possible damage to the cave floor is done. We can not present the universal solutions for the conservation of cave floor. It is necessary to take into account the specifics of each cave. In particular the number and the target groups of visitors.

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The cave consists of floor, walls and ceiling. Visiting show caves in France, Italy and Slovenia, we noticed that conservation of cave floor is been often neglected in the past at the expense of parts of the cave rich in cave inventory. Paths through show caves must be located and arranged in a way that allows visitors easy and safe movement. In many cases, builders exaggerated the width of the path that is not necessary for the

movement through the cave. They built massive fences and stairs in places that are not dangerous for visitors.

This type of building destroys number of interesting shapes on the cave floor, causes losing the natural look of the cave and prevents good interpretation of speleogenesis. Despite the fact that most show caves in Europe are visited by small groups of visitors (up to 20 people at once) and also have a small total annual number of visit (less than 1,000 visitors), the cave floors in many show caves are completely covered by sand and concrete. It would be enough for the safe movement of visitors through the cave if the path was much narrower. Exaggeration is also present in the construction of the massive iron structures as fences and stairs seen in Fig. 1. Fences are very massive, the stairs are built for few 10 times greater capacity than the total weight of visitors.

Some managers are showing sensitivity to floor conservation and interpretation. They manage cave infrastructure in a way the least possible damage to the cave floor is done. As it is an example in the Križna jama cave in Slovenia. In this cave we see an alternative way of building path, which keeps the floor of the cave natural as much as possible. The path through the cave is only 100 cm wide. It is wider only in places where visitors stop and look at the important features of the cave: rocky formation, the bones of



Fig. 1. The massive construction. Archive of Križna jama.



Fig. 2. The path through the cave covers a small part of the cave floor. Archive of Križna jama.



Fig. 3. Sediment deposition on the tourist path. Archive of Križna jama.



Fig. 4. Method of construction that keeps the cave floor more natural. Archive of Križna jama.

cave bears. The trail is marked by two white plastic stripes, which can be easily removed or replaced. Most of the cave floor is preserved in its natural form (Fig. 2).

To a large extent contact between cave walls and floor is also preserved. Usual construction of paths hides or covers this contact with layers of sand or concrete. To preserve the cave floor we can use narrow higher leveled path made of steel or concrete as it was done in Postojnska jama seen on Fig. 4. Using such methods

of construction and installation it is easier to show and interpret the processes that have formed the cave in the distant past. It is also easier to explain the current processes. The advantage of the method described above can be seen at a time of extreme events such as floods in the cave. On Fig. 3. we see sediments that were deposited by flood waters on the cave path. We could remove sediments from the path, but in that case we would lose the interpretation of extreme events.

We can not present the universal solutions for the conservation of cave floor. It is necessary to take into account the specifics of each cave. In particular the number and the target groups of visitors. A sustainable way of installing path as it is done in Križna jama is suitable for dry caves with a small number of visitors and naturally preserved caves, which are not suitable for hard-moving people and people with disabilities. It is necessary to establish and build the path in a different way in caves with large numbers of visitors and wider represented target groups of visitors such as young children, older people, people with decreased abilities. Our opinion is that building infrastructure should follow the principle of minimalism in all types of caves. Paths should be constructed as narrowly as possible. The rest of the cave floor should remain naturally preserved.