

around the Perspektywiczna Cave NEWSLETTER #3 (1/2018)

Scientific magazine publishing short reports on speleology, geomorphology, geology, climatology, archaeology, paleontology, biology, ecology and natural and cultural heritage of Perspektywiczna Cave and its vicinities

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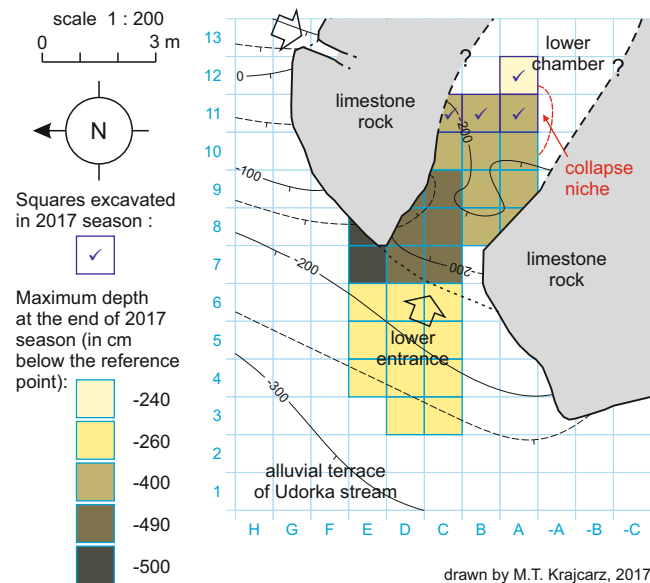
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2017 excavation area in Perspektywiczna Cave

by Maciej T. Krajcarz

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During the 2017 season (July 4th - 28th) the excavation works concentrated in trench „V” only (area around the lower entrance and the lower chamber of the cave; for localization of trenches see Newsletter #1). Excavated area covered the squares: A-B-C/11 and A/12. The sediments at squares -A/10-11-12 partially collapsed during the last days of excavation (see the next page), and were carefully collected. The maximum depth achieved at particular squares in 2017 is shown on the sketch below.



Pleistocene hyena den in Perspektywiczna Cave

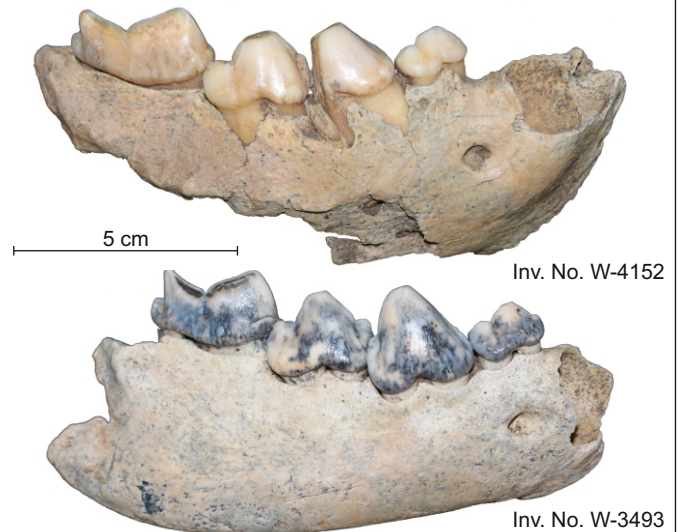
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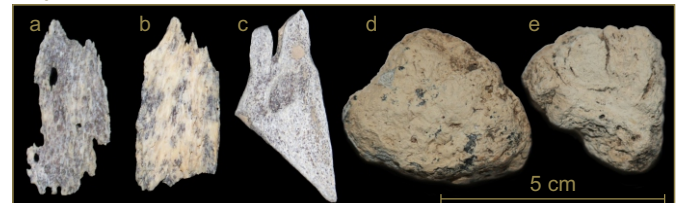
The term „carnivore den” describes a place used by animals as a shelter, usually underground, where they live, breed and nurse their cubs. The place can be used for a long period of time, so many leftovers can be accumulated, including corpses, eaten bones or scats. Perspektywiczna Cave is a classic example of fossil Pleistocene hyena (*Crocota crocuta*) den. Radiocarbon dating revealed the age of hyena occupation to be around 40-30 thousand years BP.

A Pleistocene taphocenosis consists of remains representing adult, senile and juvenile individuals. The layer 7c is the main record of hyena den in the lower chamber of the cave. It is extremely rich in coprolites and crushed and/or digested fragments of bones. Remains of prey belong to a number of large ungulate species: reindeer, woolly rhino, steppe bison and giant deer. The digested fragments of juvenile mammoth teeth show that such animals were also hunted or scavenged. The cave bear bones found in the layer are also heavily damaged.

Mandibles of hyenas found in Perspektywiczna Cave. The gnawing marks are visible around the bones, indicating extensive gnawing of hyenas' remains by other hyenas. Rather than cannibalism, this is an effect of chewing the old bones found years after inside the cave by the next generations of hyenas. Photo by Magdalena Krajcarz ▼



Hyena coprolites are a dominant component of layer 7c. They are usually crushed into small fragments, but some well preserved specimens can also be found (d, e). Another extremely abundant component is digested splinters of bones (a, b, c) with a characteristic rounded shape, polished surface and cheese-like holes. Photo by Magdalena Krajcarz ▼



Maggots' army-worm

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The procession of fly (*Sciara militaris*) larvae is well-known but rare phenomenon, known as army-worm (Polish: *pleri*). It was observed in front of Perspektywiczna Cave on June 18th, 2016.



Instruction for authors

Around the Perspektywiczna Cave Newsletter is publishing any reports or other materials concerning the Perspektywiczna Cave or related subjects that may give background for any phenomenon studied in the Cave. The editor especially encourages to publish here:

- excavation reports or their summaries;
- reports of archaeological prospection and testing in the nearby

or similar area;

- observations of natural and cultural processes and phenomena nearby, that might affect the Cave, either currently or in the past, or are predicted to be important in the future;

- photographic reportages;
- any other short reports, reportages, interviews, graphics or essays concerning the speleology, geomorphology, geology, climatology, archaeology, paleontology, biology, social

perception, and natural or cultural heritage of Perspektywiczna Cave and widely regarded relative issues.

Please send finished manuscript proposals by email to mkrjcarz@twarda.pan.pl. All manuscripts are reviewed by experts. Only the positively reviewed manuscripts will be accepted for publication. After the acceptance the authors will be asked to confirm and correct the proof.

Collapse of sediments in Perspektywiczna Cave during 2017 excavation season

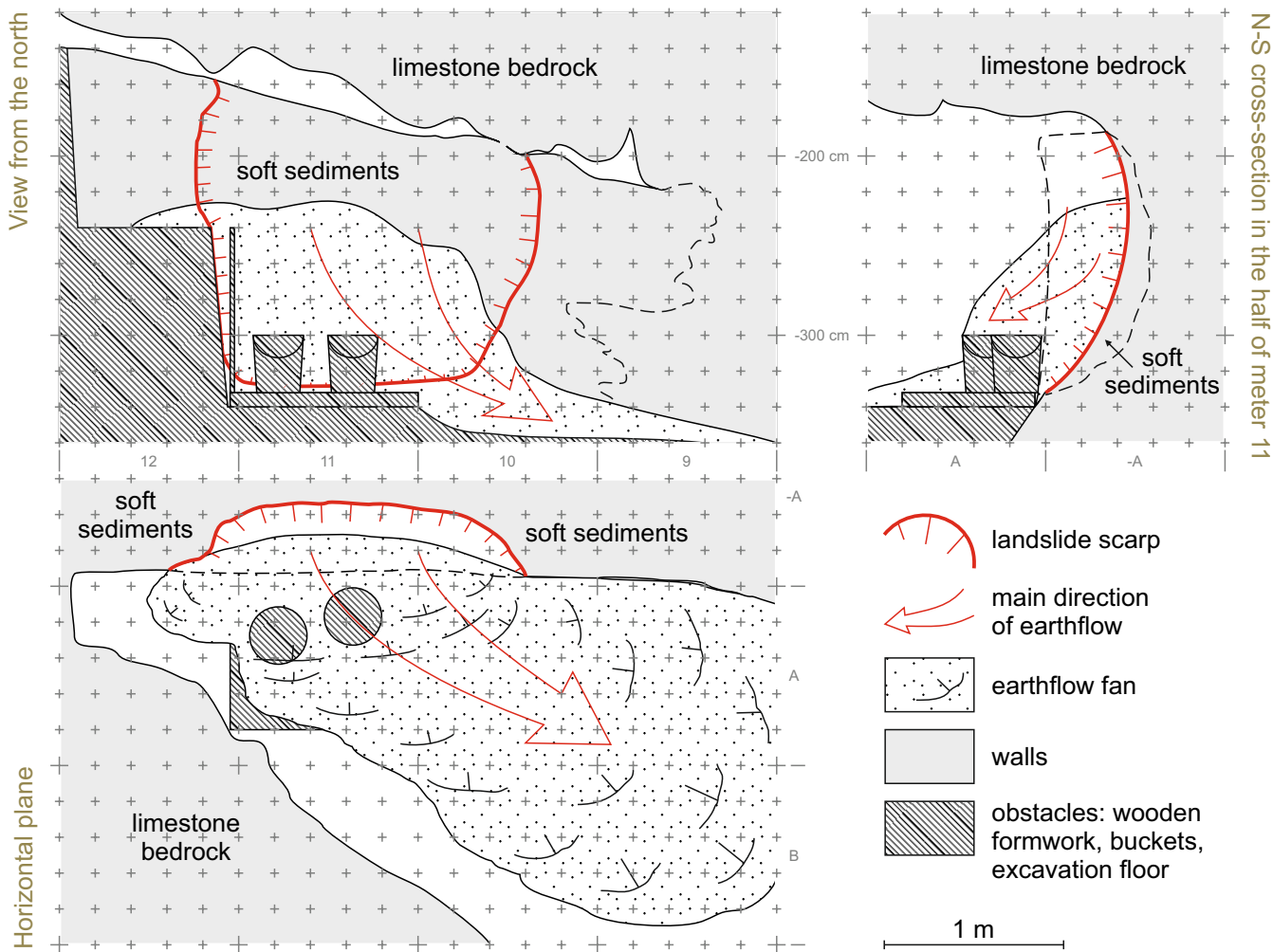
by Maciej T. Krajcarz, Institute of Geological Sciences, Polish Academy of Sciences, email: mkrajcarz@twarda.pan.pl

Massive collapse of sediments occurred on July 26th, 2018. The incident happened during excavation works. A mass of sediments has broken off the southern wall of archaeological trench, at the border of square meters A/10-11-12 and -A/10-11-12. From geological point of view, it was a typical landslide which formed the niche with a steep scarp, followed by earthflow that accumulated a debris fan below, widespread over 5 m². The total volume of collapsed sediment was around 0.6 m³, what equals around 600-800 kg.

The event was not preceded by rainfall, in opposition to the usual landslides. The indirect reason was the steepness of the wall and the lithological inhomogeneity of sediments, mostly at square meter -A/11. The analysis of geological structures after the collapse revealed

that the surface of rupture developed directly on the border of the archaeological feature - the pit. It is difficult to indicate the direct reasons for the landslide. Most probably the excavation activity was responsible. It is noteworthy that the huge stone fell down several days before from A/11 / A/12 wall, and that incident could have acted as a triggering impuls.

The landslide event was preceded by warning signals. In the morning, several hours before the collapse, the freshly fallen earth was found below the wall which collapsed later. Signals like that should be observed with caution during future works. ▶



▶ The whole collapse event lasted for not longer than 1 second and was accompanied by a short roaring sound. The effect of collapse looked fearfully, like an avalanche, but actually it was not dangerous for excavators. The total thickness of earthflow was up to 80 cm directly below the collapsed wall, and decreased to less than 20 cm at 0.5 m distance. It can be seen on the photos that the buckets standing close to the wall were not overthrown by the earthflow. The heap seems higher than really was due to buckets and formwork below.

The cleaning works took the rest of the day and the next one. The collapsed sediment was removed outside the cave in buckets, then carefully checked by hands at the dump sieving station. Fortunately, the collapsed sediments contained only a small number of artefacts and fossil bones, so the collapse was not truly devastating for the archaeological or paleontological record on the site. ▶

