

Caves are special places where valuable information about ancient human cultures and the environments they inhabited is preserved. They contain tools made of flint and bone, as well as ornaments that are priceless testimonies of life and culture from thousands of years ago. Archaeological research allows for the documentation, protection, and interpretation of these findings, preserving cultural heritage for future generations.

Mamutowa Cave (also known as Wierzchowska Dolna, N 50°10'14", E 19°48'21") is an exceptionally picturesque karst cave located on the rocky slopes of Kluczwoda Valley, near Wierzchowie village, by Berdo Rock, famous for its spectacular rock arch forming the cave entrance. Mamutowa Cave was the first cave in Poland to undergo archaeological investigation. In the 1870s, Jan Zawisza conducted extensive excavations of the cave's sediments, amassing a rich collection of prehistoric artifacts and faunal remains. The cave derived its name from the numerous mammoth bones found by Zawisza. He presented his findings at international congresses on prehistory, firmly establishing Mamutowa Cave in the forefront of prehistoric research.

Particularly valuable is the unique collection of bone tools discovered by Jan Zawisza, including spear points made from mammoth bones and numerous ornaments and other items crafted from bones and teeth of animals associated with the early settlements of modern humans in southern Poland. These exceptional artifacts are housed in the Archaeological Museum in Krakow. This discovery prompted multiple subsequent investigations of the cave, with a new series of excavations commencing in 2021, thanks to cooperation with the Krzeszowice Forest District

The new project aims to consolidate and enrich data from previous excavations to provide a comprehensive understanding of the cultural and environmental heritage of this remarkable cave, spanning multiple human settlements from the Paleolithic period to modern times. The entire artifact collection will undergo analyses aimed at determining their manufacturing techniques, functions, and chronology. These artifacts, especially bone tools, will be meticulously documented using modern methods such as micro-computed tomography, three-dimensional modeling, and RTI photography, revealing intricate details of their creation.

Current excavation techniques, such as sieving sediments comprehensively for even the smallest human-made artifacts, have also facilitated the collection of a large sample of small organisms and burnt plants, enabling a detailed analysis of environmental changes. Environmental studies will also include analyses of isotopic content, which allow scientists to investigate diet, mobility, climate, and other aspects of ancient populations' lives. A variety of geological analyses will be applied to study the composition and nature of geological layers, which record past geological and anthropogenic processes. Studying their composition and character enables the reconstruction of historical environments, dating of finds, and understanding interactions between humans and the environment. Additionally, a new series of radiocarbon dates will allow for a more precise placement of successive human settlement episodes in the cave's timeline.