DESCRIPTION FOR THE GENERAL PUBLIC (IN ENGLISH)

The primary aim of the project is the study of disease occurrence in prehistoric vertebrates and of the impact the diseases had on the ancient inhabitants of our planet. This study expands the conventional understanding of palaeopathology as a science concerned with lesions in human prehistoric and historic populations, by documenting the diseases and traumas recorded in tens and hundreds of millions years old skeletal fossils. Expected results of the project will supplement our knowledge about the prehistoric forms of modern diseases with their evolutionary prospections, and they may give a better insight into the population dynamics of fossil vertebrates.

The planned research is aimed at filling some of the existing gaps in our understanding of the history of diseases and showing that maladies are an important part of our heritage and for millions of years they influenced the evolution of life on Earth.

One of the most significant aspects of this project is the palaeoepidemiological study of the Triassic assemblage of amphibians and reptiles from the famous palaeontological locality in Krasiejów. The excavations performed there for nearly two decades significantly enriched the knowledge about these extinct tetrapods, thanks mostly to extensive material, including tens of thousands of palaeontological specimens. The results of an initial reconnaissance revealed that signs of various diseases and traumas, allowing us to further examine the ancient ecosystem of Krasiejów even deeper. Another important aspect is the study of infection on the bones of prehistoric reptiles. Since the pathogenic microorganisms (such as bacteria and fungi) are much older than the humanity, it remains unknown when they acquired the ability to infect living organisms and cause diseases. Understanding of the way the relationship between the pathogens and their hosts developed will contribute to the deepening of our knowledge about the processes governing the evolution of life on Earth. During the realization of this project, conventional, pathomorphological studies of disease symptoms will be supplemented by analytical methods (chemical composition) allowing a better look into the pathophysiology (study of the functional disorders of the organism) of extinct animals.