

## **Early diversification of archosaurs at the dawn of the Dinosaur Era**

Archosaurs are one of the most diverse groups of the terrestrial vertebrates. The modern members of that group are crocodiles and birds. In the past dinosaurs and pterosaurs were the archosaurs that dominated in land and air. Triassic forms, like aetosaurs, phytosaurs and rauisuchians, known from the deposits of Poland, also belong to that group. The early division of the lineages leading to the modern-day representatives was in Early Triassic. The Middle Triassic (~235 millions of years ago) is expected to yield fossils documenting their early diversification. However, the stratigraphically earliest finds of the crocodile lineage and dinosaur lineage are extremely poor prior to the Late Triassic. It is caused by rarity of the localities with terrigenous sediments of the Middle Triassic age. One of them is the recently discovered locality at Miedary (Upper Silesia, Poland), where remains of the terrestrial Mid-Triassic vertebrates are abundant and well preserved. It offers opportunity to fill the gap in the fossil record of amphibian and reptilian groups.

In recent years we found in Miedary numerous bones of an enigmatic archosaur with its body covered by dermal bones (osteoderms). Its anatomy suggests affinities with both the crocodile- and dinosaur lineages. It is possible that the Miedary reptile is a member of the archosaur group yet unknown in the fossil record. For the detailed recognition of the anatomy and affinities of this apparently new species, further excavation works are necessary, as well as examination of the material collected from strata of similar age elsewhere.

The enigmatic Miedary archosaur may appear crucial for understanding the early evolution of the Archosauria, and explaining the evolutionary success of the group.