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Book of Abstracts

NEW VERTEBRATE MATERIAL AND PALAEOENVIRONMENTAL RECONSTRUCTION OF THE OLDEST DINOSAUR-BEARING STRATA OF HAȚEG BASIN (ROMANIA): LATEST RESULTS OF THE PALEONTOLOGICAL EXCAVATIONS IN THE VĂLIOARA VALLEY

The Upper Cretaceous Densuș-Ciula Formation of the Hațeg Basin has long been known for its exceptional dinosaur fossil sites, from which hundreds of well-preserved vertebrate remains have been collected over the past century. One of the historically and palaeontologically most significant vertebrate-bearing areas of this formation lies in the northwestern part of the Hațeg Basin, around Vălioara village, representing the focus of this study. These important sites historically yielded the type material for the crocodile *Allodaposuchus precedens* and the titanosaur *Magyarosaurus dacus*. Since 2019, new systematic palaeontological excavations have been conducted in this area, yielding substantial new Late Cretaceous (Maastrichtian) vertebrate material from multiple sites. Besides important isolated elements of turtles, amphibians, lizards, crocodyliforms, theropods, pterosaurs and mammals, associated skeletons of rhabdodontid, titanosaurian and hadrosauroid dinosaurs were unearthed. Detailed geological mapping was also conducted in the area covering almost 10 km², supported by sedimentological, structural geological investigations combined with results of zircon U-Pb geochronology, palynology, and marine micropalaeontology, in order to provide a more accurate interpretation of the geological and palaeoenvironmental context of these important dinosaur localities. Sedimentological investigations indicate that the continental sediments in the Vălioara area were formed in an alluvial fan environment, with the bone-bearing horizons corresponding to fine-grained floodplain deposits in a distal fan setting. Stratigraphic analyses revealed that these represent the oldest currently known bonebeds within the Hațeg Basin. Overall, these discoveries significantly enhance our understanding concerning the composition and ecological characteristics of the earliest faunal assemblages of the Hațeg Island during the Late Cretaceous..

by

G. Botfalvai^{1,2*}, Z.Csiki-Sava³, G. Albert⁴, S. Budai⁵, J. Magyar^{1,6}, D. Țabără⁷, R. Bălc⁸, R. Bindiu-Haitonic⁹, M.N. Ducea³ and L. Makádi¹⁰

(see next page for affiliations and keywords)

¹Eötvös Loránd University, Institute of Geography and Earth Sciences,
Department of Palaeontology, Budapest, Hungary

²HUN-REN-MTM-ELTE Research Group for Paleontology, Budapest, Hungary

³University of Bucharest, Department of Geology, Mineralogy and Palaeontology, Bucharest, Romania

⁴Eötvös Loránd University, Institute of Cartography and Geoinformatics, Budapest, Hungary

⁵Università degli Studi di Pavia, Dipartimento di Scienze della Terra e dell'Ambiente, Pavia, Italy

⁶Hungarian National Museum Public Collection Centre,

Department of Geology and Paleontology, , Budapest, Hungary

⁷Alexandru Ioan Cuza University of Iași, Department of Geology, Iași, Romania

⁸Babeș-Bolyai University, Faculty of Environmental Science
and Engineering, Cluj-Napoca, Romania

⁹Babeș-Bolyai University, Department of Geology and
Research Centre for Integrated Geological Studies, Cluj-Napoca, Romania

¹⁰Supervisory Authority for Regulatory Affairs, Geological Survey,
Department of Collections, Budapest, Hungary

*botfalvai@staff.elte.hu

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