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GEOLOGICAL HERITAGE AND GEODIVERSITY OF THE MESOZOIC SOUTHERN CARPATHIAN DINOSAUR WORLD: The Hațeg Country UNESCO Global Geopark

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Abstract

The Hațeg Country UNESCO Global Geopark is member of the European Geoparks Network and UNESCO Global Geoparks. Its main geological values are the dinosaur-bearing deposits, containing endemic species, i.e., dwarf dinosaurs, but the faunal assemblage from the end of the Cretaceous also includes representatives of all major vertebrate groups from fishes to mammals. This Geopark is situated in the Hațeg post-orogenic intramontainous depression, encircled by the Southern Carpathian chain, formed at the Cretaceous end within the Getic Realm, in response to the Laramian tectonics. Previous palaeogeographic studies indicated the existence of an archipelago of islands in the NE Tethys during the Late Cretaceous, including the Hațeg Basin. Palaeomagnetism shows for this area a mean palaeolatitude of 25°N, consistent to the Late Cretaceous subtropical climate, endorsed by sedimentology, palaeontology, and stable isotopes.

The Hațeg Country Geopark is representative for its sedimentary record, covering Jurassic and Cretaceous Periods. The deposition starts with continental Lower Jurassic sediments, followed by a mainly marine sedimentation from the Middle Jurassic to the Upper Cretaceous (upper Campanian), interrupted by continental sedimentation during the Albian, and topped by continental deposits in the Maastrichtian. The Middle Jurassic – Lower Cretaceous sedimentation is dominated by carbonate facies, including reef limestones, characteristic of the Urgonian facies. Following the tectonics of the middle Cretaceous times, the region was uplifted for a short interval; during the exhumation period which lasted throughout the Albian, the weathering products have been accumulated within the karstic depressions formed on top of the Urgonian limestones, generating the bauxite deposits. Marine conditions resumed at the beginning of the Late Cretaceous, and lasted from the Cenomanian to the Late Campanian, with fluctuations among shallow-water, outer shelf, and deep -water settings. Products of volcanic eruptions are present in the Maastrichtian, while from the Tertiary thick piles of molasse deposited.

Biography

Research interests: marine sciences, paleoenvironmental fluctuations, foraminifera and ostracod in the Danube-Danube Delta-Black Sea

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