MICROVERTEBRATES FROM THE LOURINHÃ FORMATION (LATE JURASSIC, PORTUGAL)

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The Upper Jurassic of Portugal is globally known for its vertebrate microfossil fauna thanks to the Konzentrat-Lagerstätte of the Guimarota mine, which provided thousands of bones, teeth, and even a complete mammal specimen: *Henkelotherium guimarotae*. However, no other Portuguese Jurassic vertebrate microfossil assemblage has been extensively studied. Hereby is presented a preliminary study on three localities from the Lourinhã Formation (Kimmeridgian-Tithonian). A total of 377 kg of sediment were collected from Porto das Barcas, Zimbral, and Valmitão have provided 2497 microvertebrate skeletal remains and teeth, from which 824 specimens have been identified, described and assessed to the conservative-most taxa. The remains have been attributed to chondrichthyans, actinopterygians, amphibians, squamates, crocodylomorphs, and dinosaurs. The sedimentology of the localities suggests that Porto das Barcas and Zimbral were floodplain mud deposits, whereas Valmitão was an oxbow lake mud deposit, all three deposited in transitional environments, with varying degrees of marine influence. Palaeoecological analyses suggest Zimbral and Valmitão were dominated by a terrestrial fauna, more diverse than Porto das Barcas, dominated by an amphibious fauna. The Lourinhã Formation deposited closer to the shoreline than similarly sampled localities in the contemporaneous Morrison Formation. All three described vertebrate microfossil assemblages present a high potential for further taxonomic, palaeoecological, and palaeobiogeographic studies, the localities of Zimbral and Valmitão being the most promising ones.