PALEOBATHYMETRY OF THE MESOZOIC BOREAL EPICONTINENTAL SEAS: PALEOECOLOGIC AND SEDIMENTARY CRITERIA FOR MODEL CONSTRUCTION

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In the construction of the model of relative paleobathymetry, the existing natural succession of benthic assemblages from shore seaward (benthic catena) is taken into account. Sharp deepening of bottom profile is accompanied by drop out of certain member of catena. In the construction of quantitative paleobathymetry, the fair-weather waves base and the storm waves base are taken into account. Above the fair-weather wave base (10 m), there occur predominantly sessile and burrowing warm-water preference suspension feeders, the builders of vertical dwellings such as Rosselia (Scolithos ichnofacies). Thanatocoenoses of the shingled and shell pavement type developed here. Enclosing rocks are characterized by ripple marks, swaly cross stratification, oolites of ferrum silicate minerals and are represented by coarse-grained sands. Above the storm wave base (20 m) along with suspension feeders at the level of sediment/water there inhabited deposit feeders, animals who left the traces of Rhizocorallium (Cruziana ichnofacies). Among thanatocoenoses, shelly lenticular concentrations dominate. Rocks show hummocky cross stratification; they consist of poorly sorted sands. Lower of storm wave base to a depth of 40m (macroalgae base), vagrant deposit feeders inhabited at (and below of) surface of sediment/water. There lived skeletonless Zoophycos ichnofacies. Lower of 40m (to 80 m, calcareous algae zone) benthic assemblages were sharply dominated by cold-water preference deposit feeders and swollowers below of the sediment/water surface. The animals of ichnofacies Nereites inhabited. Sulphides, highly-carbonic clays with fine parallel lamination are very frequent to occur.