



Jurassic planktic foraminifera and their contribution to our understanding of the Jurassic oceanic system

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The planktonic foraminifera probably evolved from benthic ancestors in the Toarcian (Lower Jurassic). The ancestral lineages of *Oberhauserella* and *Praegubkinella* are thought to have used aragonite in the construction of their tests and the newly evolved planktic taxa (*Conoglobigerina*) are also thought to have had an aragonitic test. This would agree with the view of the Jurassic ocean as being “aragonitic” in character. In Southern Poland and Hungary a number of Middle Jurassic limestones contain very large numbers of planktic foraminifera, to the point where they should be regarded as foraminiferal packstones. Some of these locations probably represent the first examples of foraminiferal ooze and indicate that they must have been deposited above the mid-Jurassic Aragonite Compensation Depth. Many of the assemblages are almost mono-specific, being composed almost entirely of *Conoglobigerina* or *Globuligerina*. In other parts of the Pieniny Klippen Belt in Southern Poland are radiolarian facies that were probably deposited in deeper water. The only other carbonate-based plankton at the time are the calcareous nannofossils, which were also in an early stage of their evolution.

The change from the Jurassic aragonitic ocean to the Cretaceous calcitic ocean is not precisely determined and the evolution of the planktic foraminifera provides no indication as to when this occurred. Indeed, the Jurassic-Cretaceous transition is a low point in planktic foraminiferal diversity and evolutionary change.