Paleoecology of the Upper Triassic Gosausee Reef

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The Late Triassic was an extremely important time in reef evolution, producing the first “modern-style” reefs dominated by scleractinian corals (the stony corals alive today). Reefs are extremely sensitive to environmental perturbations, and so the interactions of ancient reef organisms and their ecosystems (paleoecology) provide important clues to understanding extinctions, as well as factors controlling reef growth and ecology.

This study is focused on documenting the ecology and sedimentology of a previously undescribed Upper Triassic reef ecosystem located near Gosau, Austria. The Northern Calcareous Alps are world-renowned for their extraordinary carbonate platform exposures; this locality, known as the Gosausee reef, is very well preserved and has excellent exposure of fore reef to reef crest and lagoonal sediments. The detailed examination of this reef will place it in context with the surrounding Upper Triassic platform and provide a better understanding of these complicated reef systems.

The Gosausee reef has been mapped in outcrop and is discussed using modern (coral) framework classifications, petrographic point counting, and an analysis of the diversity, taxonomy, and abundances of contained fossil biota. Preliminary work indicates that this reef has an intricate assemblage of primary (corals and calcareous sponges) and secondary (foraminifera, *Tubiphytes*, and serpulid worms) framework builders with a distinct ecological gradient from the deep to the shallow regions of this reef. The results of this study will provide input for a facies model depicting the evolving reef ecosystem through the Late Triassic and the paleoecology of the reef organisms during this dynamic period.