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# Integrated stratigraphy in Solnhofen platy limestone: first results

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## Abstract

The Solnhofen platy limestone is famous for its excellently preserved fossils, including protobirds like *Archaeopteryx*. Research has focused on the study of the fossils, mostly the vertebrates, in the last 200 years. The Solnhofen platy limestone is accessible in more than 20 quarries of differing size in a region 100 x 200 km, and with section between 3 and 50 m thickness. It is generally accepted that the platy limestone had high sedimentation rates, although precise rates cannot be given. Stratigraphic analyses have been restricted to punctual studies with partly contradicting results. The ages of the different basins ("Wannen") are roughly constrained by ammonoids, but ammonoid zonation within a quarry is hardly possible because very few specimens have been collected stratified. First results on stable carbon isotope stratigraphy from the Blumenberg and the Ettling quarry are put into context with existing data and the Global Time Scale. First data on clay mineralogy from X-ray diffractometry data from Ettling are also presented. These results show that timing and sedimentation in the platy limestone is more complex than hitherto known, and that integrated stratigraphy is a promising tool for high-resolution correlation across the Kimmeridgian – Tithonian boundary in the Solnhofen Platy Limestone.

**Keywords:** Solnhofen platy limestone, stable carbon isotope curve, ammonoid biostratigraphy, Kimmeridgian, Tithonian, clay minerals

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