

Biostratigraphy and paleoenvironments of the Stöckelwaldgraben section (Northern Calcareous Alps, Upper Cretaceous)

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The Stöckelwaldgraben section exposes grey marls of the Streiteck- and Grabenbach formations, Gosau-Group, Upper Cretaceous, located in Austria. Frequent tempestite events were recorded throughout the section. The Stöckelwaldgraben section represents a shelf environment from the southern margin of the Penninic Ocean. Biostratigraphic data indicates the *Dicarinella concavata* to *Dicarinella asymetrica* Zone for planktic foraminifera, which covers late Coniacian to early Santonian in age. The Coniacian/Santonian boundary was marked by the first occurrence of *Sigalia carpatica* and the first occurrence of *Dicarinella asymetrica*. The primary marker, defined by the GSSP (Global Stratotype Section and Point), *Platyceramus undulaticus*, could not be found due to bad preservation of macrofossils. A gradual sea-level rise from a shallow marine to a neritic environment was observed by changes in the planktic/benthic foraminifera ratio, the faunal compositions and the diversity of benthic foraminifera. Only few planktonic foraminifera but abundant large miliolids were found in the Coniacian samples which suggests very shallow conditions. The content of planktonic foraminifera was gradually increasing up to 40% in the Santonian, where the planktic foraminiferal fauna was consisting mostly of large sized marginotruncanids, biserial planktics, dicarinellids and archeoglobigerinids. The assumed waterdepth ranges from approximately 20 meters to a maximum of 150 meters and is based on foraminiferal paleoecology.

The state of preservation of the benthic foraminifera can be considered moderate to well while planktonic foraminifera were generally found to be well preserved. High-magnesium calcite tests of miliolids such as *Quinqueloculina* sp. and *Spiroloculina* sp. were decalcified and in some cases only infillings of pyrite could be observed. Observing palaeoenvironmental changes in foraminiferal communities combined with an established chronostratigraphic framework will lead to a better understanding of events in the northwestern Tethyan Penninic realm in the Upper Cretaceous.