

A transgressive Santonian-Campanian boundary sequence revisited – High resolution planktonic and benthic foraminifera stratigraphy of the Schattau section, Northern Calcareous Alps.

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The Schattau section is part of the Austrian Gosau Group, Northern Calcareous Alps. We record a Santonian to early Campanian transgressive sequence. Previous investigations already provide a biostratigraphic framework; a multidisciplinary study to reveal the local stratigraphy and palaeoenvironmental properties: Planktonic foraminifera, calcareous nannoplankton, ammonite, echinoid and crinoid biostratigraphy data suggest a Santonian to earliest Campanian age for this section (see Wagreich et al., 2009).

This work aims at a high resolution assessment of foraminiferal assemblages recorded from a time interval that has undergone significant palaeoenvironmental changes. The Santonian Hochmoos Formation, with the Sandkalkbank Member representing its topmost subunit, is overlain by the Santonian to Campanian Bibereck Formation. While the Hochmoos Formation records a shallowing succession that finds the Sandkalkbank Member (representing very shallow conditions, sometimes sub aerial exposure) at its top. The overlying Bibereck Formation records a distinct deepening trend displaying increasingly marine, neritic to outer neritic conditions. The stratigraphically older subunits of the Schattau sections are characterised by abundant larger benthic foraminifera (*Nummofallotia* cretacea), miliolid foraminifera (*Quinqueloculina* spp, *Spiroloculina fassistomata*) as well as rotaliid foraminifera (*Hoeglundia* spp., *Gavellina* spp.). The Sandkalkbank member marks the end of the shallow water sequence recorded from foraminifera assemblages at the Schattau section. Up section communities are characterised by increasing share of planktonic foraminifera. Biostratigraphic marker fossils like *Dicarinella asymetrica* and *Sigalia* sp. (*decoratissima*?) were identified and indicate a Santonian age for the Bibereck Formation. The appearance of *Globotruncanita elevata* and disappearance of *D. asymetrica* and *Sigalia* sp. Suggests an early Campanian age for the topmost part of the Schattau section.

Tubular and bi- and triserial agglutinated foraminifera (e.g. *Ammobaculites* spp., *Dorothia* spp., *Gaudryina* spp., *Tritaxia* spp.) as well as spiral calcareous benthic foraminifera (*Gavellinella* spp., *Lenticulina* spp.) are recorded in the younger deposits at the Schattau section (in the Bibereck Formation). Developments in benthic foraminiferal taxa do not only seem to provide valuable information on palaeoenvironmental properties. The succession of certain benthic taxa (e.g. *Gavellinella* spp.) provides valuable data on local benthic foraminiferal biostratigraphy which is particularly valuable if environmental factors inhibit the occurrence of planktonic foraminiferal markers.

References:

Wagreich, M., Summesberger, H., Kroh, A., 2010. Late Santonian bioevents in the Schattau section, Gosau Group of Austria – implications for the Santonian – Campanian boundary stratigraphy. *Cretaceous Research*, 31, 2, 181-191