

TWO AMMONITE MASS-OCCURRENCES OF THE ALPINE LOWER CRETACEOUS (NORTHERN CALCAREOUS ALPS, UPPER AUSTRIA)

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Palaeoecological, sedimentological studies have been carried out in an outcrop in the Ternberg Nappe in Upper Austria. The exact position is about 7 km west of Losenstein, 1 km south of Kienberg and 500 m southwest of the Klausriegler inn (652 m, ÖK 1:50000, sheet 69 Großraming). The assembled stream outcrop (47°55' N and 44°21' E) crosses the western part of the Losenstein Syncline at this point which in this section is in east-west direction between the Kreuzmauer (853 m) in the north and the Pfaffenmauer (1218 m) in the south.

Both mass-occurrences are exposed in stratigraphical order in a single section measuring about 200 meters embracing the complete Lower Cretaceous sequence of upper Steinmühl Formation (U.Berriasian - L.Valanginian), Schrambach Formation (L.Valanginian - U.Barremian) and Tannheim Formation (Aptian). Both mass-occurrences lie in strata of the Schrambach Formation. Of importance is the fact that only in the Losenstein Syncline both mass events are preserved (or at least reported). The two mass-occurrences found in the Ternberg Nappe have different origins, not least because of their different preservation modes and probably also scales.

The first one consists essentially of *Olcostephanus (Olcostephanus) sayni* KILIAN (80%, 126 specimens) in a bed up to 1m thick and is of Upper Valanginian age. Material within the *Olcostephanus* beds is essentially broken and fragmented. Comparable occurrences have previously been reported from western Europe, extending from S.-France, through Switzerland (the Astierian Beds) to northern Germany, but are as yet unreported from the Northern Calcareous Alps and eastern parts of Europe.

The second ammonite mass-occurrence in a bed only 15 cm thick consists essentially of *Karsteniceras cf. pumilum* UHLIG (93%, 535 specimens) and is of Barremian age. The sediment is dark-grey to black with an increasing content of organic matter and pyrite. The high content of 0,89% TOC against 0,22% TOC in the surrounding limestones shows the at least semianoxic condition in the bottom-water column at the time of formation. The material in the *Karsteniceras* mass occurrence is extensively entire. This is unknown elsewhere in the Northern Calcareous Alps or western Europe, but has been described from the Outer Carpathians of the eastern Czech republic. A mass-occurrence of *Leptoceras* from the Berriasian of S.-France is also essentially monospecific and has a similar field appearance as the Austrian Barremian situation.

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