

UPPER VALANGINIAN CEPHALOPODS FROM THE HOCHKOGEL SECTION (*VERRUCOSUM* ZONE, NORTHERN CALCAREOUS ALPS, UPPER AUSTRIA)

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Upper Valanginian deposits of Upper Austria yield large amounts of ammonoids. The new occurrence was detected during paleoecological and sedimentological studies at an outcrop in the Ternberg Nappe in (Upper Austria, Ebenforst Syncline). The associated cephalopod fauna indicates a Late Valanginian age (*Verrucosum* Zone sensu Hoedemaeker & Rawson, 2000; Reboulet et al. 2006).

The outcrop is situated in the Reichraming Nappe in Upper Austria. The exact position is about 5 km south of Brunnbach (652 m, ÖK 1:50000, sheet 69 Großraming). The outcrop is located in the southernmost part of the east-west striking Ebenforst Syncline along a forest road, running between the Sulzggel (840 m) to the north and the Hochkogel (1157 m) to the south at the topmost part of the Reixengraben at 885 m.

The Upper Valanginian cephalopods described were fully collected from a little outcrop containing sandstones intercalated with 3 marly limestone beds, each of about 10-25 centimeter thickness, and is located at the southern margin of the Ebenforst Syncline. The exact position of the ammonoid-occurrence is fixed by GPS data (N 47°47'15" and E 14°30'00").

Over 300 hundred specimens have been collected in 2003. The ammonoid fauna comprises 14 different genera, each apparently represented by 1 or 2 species, and a single deepwater nautiloid. The cephalopod fauna is

accompanied by lamellaptychi. *Haploceras* (Ammonitina) and *Bochianites* (Ancyloceratina) are the most frequent components (each about 40%). Lytoceratina, Phylloceratina together with *Neocomites* (Ammonitina) are roughly balanced (all about 5%). Olcostephanids (Ammonitina) are very rare (about 3%). Most specimens show fragmentation. Due to the high number of specimens, however, even extraordinarily well-preserved individuals (e.g. lappets of microconchs) can be observed. The well-preserved specimens show unusual (in Lower Cretaceous sediments of the Northern Calcareous Alps) shell preservation. The cephalopod fauna consists only of Mediterranean ammonoids.

The deposition of the limestones in this interval occurred in an unstable environment. The fragmentation of most ammonoids furnishes evidence for a post-mortem transport of the cephalopod shells. The shells were deposited in somewhat shallower habitats, where they were probably partly fragmented. Later, the shells were transported into the final depositional area on the deeper shelf or upper slope. This reconstruction allows a tentative interpretation of the habitat of the ammonoids investigated, which, accordingly, might have dwelled in more shallow waters instead of open marine offshore areas.

References

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