

EARLY CRETACEOUS CEPHALOPOD AND CALCAREOUS NANNOFOSSIL BIOSTRATIGRAPHY OF THE BERSEK QUARRY (GERECSE MTS, TRANSDANUBIAN RANGE, HUNGARY)

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An integrated biostratigraphic subdivision, on the basis of macrofossils (ammonites and belemnites) and microfossils (mainly calcareous nannofossils), is proposed for the Lower Cretaceous siliciclastic succession of the Bersek Quarry (Gerecse Mts, Hungary). A thick succession of Early Valanginian strata that crop out in the lower part of the quarry yielded no cephalopods, hampering detailed zonation. Above it, a rich ammonite fauna permit recognition of many of the recently established Mediterranean ammonite zones. The upper, fossiliferous part of the Bersek Marl Formation starts with the Upper Valanginian *Varlhedeites peregrinus* and *Criosarasinella furcillata* ammonite Zones. This is overlain by a moderately condensed Hauterivian succession, reduced in thickness especially in its upper part, in which the *Acanthodiscus radiatus?*, *Crioceratites loryi*, *Lyticoceras nodosoplicatum ?*, *Subsarynella sayni*, *Plesiospidiscus ligatus*, *Crioceratites balearis* and *Pseudothurmannia ohmi* ammonite Zones are recognised. These Hauterivian are in turn overlain by the Lábatlan Sandstone Formation, the lower part of which is Lower Barremian. A complete succession of the *Taveraidiscus hugii*, *Nicklesia pulchella*, *Subpulchellia compressissima* and *Moutoniceras moutonianum* ammonite

Zones are documented by rich fossil assemblages. Beds above yielded a diverse fauna characteristic for the *Toxancyloceras vandenheckii* ammonite Zone, indicating the base of the Upper Barremian. The topmost part of the sampled succession in the quarry yielded poorly preserved fossils only, hampering the recognition of any higher Upper Barremian zones. On the basis of the rich belemnite fauna an Upper Valanginian to lowermost Hauterivian, a Lower Hauterivian, an Upper Hauterivian to lowermost Barremian, and a "Mid" Barremian associations were distinguished. The biostratigraphic and paleobiogeographic interpretations of the belemnite assemblages agree well with those based on ammonite studies. The late Valanginian to early late Barremian cephalopod succession of the Bersek Quarry has a pronounced Mediterranean affinity, showing significant similarities with ammonite assemblages from the Subbetic Domain of south-east Spain. The detailed cephalopod stratigraphy was correlated with the calcareous nannofossil zonation and events. The Lower Cretaceous deposits of the Bersek Quarry serve as useful reference section in the Mediterranean Realm.

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