

Taphocoenoses of the OAE2 interval as indicators of changing depositional and paleoecological conditions, Bohemian Cretaceous Basin

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The Pecínov quarry in west-central Bohemia, Czech Republic, represents the most complete outcrop section of the OAE2 interval in the Bohemian Cretaceous Basin, extending from the lowermost *Metoicoceras geslinianum* to the top of *Watinoceras devonense* Zones. Current collecting, made possible by recently renewed progress in quarrying, yielded one of the most diverse fauna reported so far from the *M. geslinianum* Zone in Central Europe, and provided material for study of changes in taphocoenoses through the OAE2 interval in a relatively broad shelf embayment at the western edge of the Bohemian Cretaceous Basin. The sedimentological, geochemical and paleontological record indicates variations in oxygen content within the sediment and at the sediment/water interface, expressed, e.g., in variations of mode of pyritization, differences in ichnofabric and trace fossil distribution (e.g. *Trichichnus*, *Chondrites* isp.) and in the structure of the benthic communities. Several distinct taphocoenoses dominated by one or a few species have been found. One of the most prominent is a *Sciponoceras gracile* event (*S. gracile* / *Euomphaloceras septemseriatum* Subzone). This, apart from the simple autochthonous high population density, may be interpreted as a record of repeated spawnings of *S. gracile* in optimal environmental conditions. Another example is the succession of *Modiola* sp.-terebratellidid/glyphaeid -dominated communities (top part of *S. gracile*/*E. septemseriatum* Subzone), or a *Protocardia-Turritella* dominated, infaunal community at the base of the *M. geslinianum* Zone.

The recent improvement of biostratigraphic and chemostratigraphic correlations provide a high-resolution chronostratigraphic framework within which these events may be correlated regionally and the local ecological dynamics can be understood in the context of processes acting on extrabasinal scale during the OAE2 time.