

substrate (*Tremabolites* being a soft-bottom encruster). Hard-shelled in-fauna and semi-infauna was represented by atelostomate sea urchins and protobranch bivalves. Asteroids, vetigastropods and lobsters formed a motile element, while most cirripedes were stalked. Many taxa from the Opole Cretaceous, to be listed in the talk, were identified only recently and their formal description is in progress.

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## BIOTIC AND PALAEOENVIRONMENTAL CHANGES IN THE ALBIAN–CENOMANIAN BOUNDARY INTERVAL OF THE TETHYS OCEAN

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Several oceanic anoxic events (OAEs) have been reported during the Cretaceous, mirrored by lithological changes, such as the occurrence of organic-rich black shales, modifications in marine assemblages and fluctuation of isotope  $\delta^{13}\text{C}$  values. Most of OAEs have been observed within mid-Cretaceous times, in the Aptian–Turonian interval. One of these events is the OAE 1d, i.e., the Albian–Cenomanian Boundary Event (Jarvis et al. 2006), which was recognized both in Tethyan and Boreal realms (Coccioni 2001; Bornemann et al. 2017). The present paper discusses features of OAE 1d as encountered in two Tethyan sections, one from the Eastern Carpathians, in a turbiditic facies and one in southern Tibet, reflecting hemipelagic deposition (Yao et al. 2018). Both sections contain a positive excursion of isotope  $\delta^{13}\text{C}$  related to OAE 1d, but the lithological overprint, i.e., organic-rich black shales, was identified only in the Carpathian section. The succession of nannofossil events, including the last occurrence of *Hayesites albiensis* and the successive first occurrences of *Cylindralithus serratus* and

*Gartnerago chiasta*, is similar in the sections investigated; the assemblages also contain a small group of high-latitude affinity taxa in the upper Albian. Several phases characterized the occurrence of OAE 1d, as a pre-excursion, with low  $\delta^{13}\text{C}$  values, along with significant diversity and increase of nannofossil high fertility, followed by the onset of OAE 1d, when high-fertility taxa decrease in abundance. The Plateau Phase is characterized by a very low nannofossil abundance and diversity, along with highest percentages of *Watznaueria barnesiae*. Solution-susceptible taxa, such as *Biscutum constans*, *Zeugrhabdotus erectus* and *Cyclagelosphaera margerelii*, are present with very low values and temporarily disappear afterwards. Within this interval, the most anoxic conditions were established on the sea floor and in the water column. The recovery of the nannofossil assemblages is concomitant with the increase of  $\delta^{13}\text{C}$  values.

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