

Nannofossil record across the Jurassic–Cretaceous boundary interval, Kurovice Quarry, Carpathian Flysch Belt: state of the art

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Jurassic–Cretaceous marine sequences of the Tethyan realm at the locality of Kurovice, Czech Republic were chosen for the multidisciplinary study of the J-K boundary. Tithonian–Valanginian strata, Kurovice Limestone and Tlumačov Marl respectively, are represented by whitish grey allodapic limestones intercalated with marlstones and belong to the Magura Group of Nappes, Carpathian Flysch Belt. Reháková (in Eliáš et al. 1996) mentioned here calpionellid zones ranging from the Crassicollarila to *Calpionella elliptica* including bloom *Calpionella alpina* that confirms the J-K interval.

Calcareous nannofossils were investigated in the fraction of 1-30µm separated by decantation method using 7% solution of H₂O₂. At first, hard rocks were disintegrated for finely powder. The first phase of works brought the following preliminary results:

- Strata provided poorly preserved calcareous nannofossils. Overgrowth and etching is extensive, making identification of some specimens difficult.
- Generally, assemblages are characterized by dominance of Ellipsagelosphaeraceae. Other placoliths are rare, usually fragmented and cannot be identified. The quantitative predominance of genera *Watznaueria* and *Cyclagelosphaera* may indicate strong etching and secondary post mortem modification of nannoflora association.
- Nannofossil record depends on the lithological character of strata. This phenomenon may affect final stratigraphic and paleoenvironmental interpretations.
- Calcarenes contain extremely poor nannofossils. In the finely ground detritus scarce nannofossil fragments (1-3 specimens per 10 fields of view of the microscope) are found represented exclusively by Ellipsagelosphaeraceae: *Watznaueria barnesiae* forms almost 80%, *Cyclagelosphaera margerelii* reaches up 11%.
- Homogenous limestones contain poorly preserved nannofossils with abundance ±1 up 10 specimens per 1 field of view of the microscope. Assemblages are represented by high numbers of genera *Watznaueria* and *Cyclagelosphaera* accompanied by rare *Conusphaera mexicana mexicana* and *C. mexicana minor*, *Polycostella beckmanii*, *Zeugrhabdotus cooperi*, and fragments of outer rims

of genera *Retacapsa*, *Helenea*, etc. Specimens of *W. barnesiae* reach up to 70% and *C. margerelii* up to 13%.

- Marlstone intercalations contain highly abundant (± 50 specimens per 1 field of view of the microscope) and more diversified nannofossils. Although *W. barnesiae* quantitatively prevails, it is accompanied by higher number of other species of genera *Watznaueria* and *Cyclagelosphaera*, and by rare specimens of genera *Conusphaera*, *Nannoconus*, *Polycostella*, *Retacapsa*, *Helenea*, *Diazomatolithus*, *Zeugrhabdotus*, and others.
- For the present, following succession of the first (FO) or last (LO) occurrences of nannofossil species was observed: FO *Helenea staurolithina*, FO *H. chiastia*, LO *Polycostella beckmanii*, FO *Micrantholithus sp.*, FO *Umbria granulosa* and *Hexalithus noeliae*, FO *Watznaueria cynthae*, FO *Nannoconus ex gr. globulus*.

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