



## **Microplankton impoverishment across the Eocene/Oligocene boundary: a case study from the Pucov section (Western Carpathians)**

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Late Eocene / Early Oligocene formations, like those in the Pucov section, exhibit a significant drop in microplankton diversity. The section starts with the Bartonian? / Early Priabonian marls of the Zone P 15, marked by its index form *Porticulasphaera semminvoluta* and another species, like *Porticulasphaera mexicana*, *Dentoglobigerina tripartita*, *Subbotina linaperta* and *S. hagni*. Zonal boundary P 15 / P 16 is marked by the LAD of *Porticulasphaera semminvoluta* and the FAD of *Globigerinatheka index*. Mid-Priabonian microfauna dominates by large-sized tests of *Globigerinatheka index*, which clearly denotes the Zone P 16 (after Gonzalvo & Molina 1992). Higher up in the Globigerina Marls, the frequency of *Globigerinatheka* species decreased (LAD = 34.3 Ma), and subbotinids become dominant. Their assemblages involve the species of *Subbotina corpulenta*, *S. angiporoides*, *S. pera*, *S. utilisindex*, *S. eoceana*, *S. gortani* and *Turborotalia ex. gr. cerroazulensis* (indices of the Zone P 17). The acme of *S. corpulenta* may serve to denote the Late Priabonian zone as well (e.g. Krasheninnikov 1965). Close to the E/O boundary, the *Turborotalia cerroazulensis* lineage disappeared (LAD 33.3 Ma), being replaced by younger species of *T. ampliapertura* (FAD 33.8 Ma). Based on the dinocysts, the Late Eocene age of the bottom part of marly sequence is indicated by the FAD of *Reticulatosphaera actinocoronata* and by the lack of the Early Oligocene taxa (e.g. *Chropteridium* spp.). Boundary interval bears pseudoassociations of redeposited muricate foraminifers (erosional unconformities) and biotite-rich layers.

Major turnover in foraminiferal composition occurs in upper part of the Globigerina Marls and successive menilitic formation (sapropel-like shales). Foraminiferal microfauna is strongly reduced in quantity and diversity, dominated by small-size globigerinids of the *G. praebulloides* – *G. officinalis* group. Small globigerinids are completed by pseudohastigerinids and tenuitellids (*Pseudohastigerina* cf. *nagewichienensis*, *P. micra*, *Tenuitella liverovskae*, *Tenuitellinata postcretacea*), which assemblages resemble those on the Eocene/Oligocene boundary (e.g. Nocchi et al. 1988). Index fossils of the Zone P 18 comprise of pseudohastigerinids (LAD 31.8 Ma), *Subbotina angiporoides* (FAD P17/P 18), *Turborotalia ampliapertura* (FAD 33. 8 Ma.) and *Chiloguembelina gracillima* (FAD 33. 7 Ma). In the topmost part, the sequence become a flysch-like in character, containing poor microfauna. Planktic foraminifers seem to belong already to the Zone P 19 / P 20, based on the presence of *Tenuitella munda* (FAD 31.1 Ma) and *Paragloborotalia* cf. *opima opima* (FAD 30.3 mil. r.).