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Mid-Miocene nannoplankton correlation in the Paratethys

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Nannoplankton correlations between Central and Eastern Paratethys were focussing on the two older HRI's, starting with NN4. Up to NN6 the Central Paratethys had marine conditions. As seen in Figs. 1 and 2 correlation problems between Central and Eastern Paratethys occur in NN5 up to NN8. One main problem is the correlation of NN7, Badenian or Sarmatian in the Central Paratethys. In the presented scheme NN4 represents Karpatian, NN5 Early Badenian, NN6 Late Badenian, NN7 and NN8 are placed into the Sarmatian, and NN9 into Pannonian A.

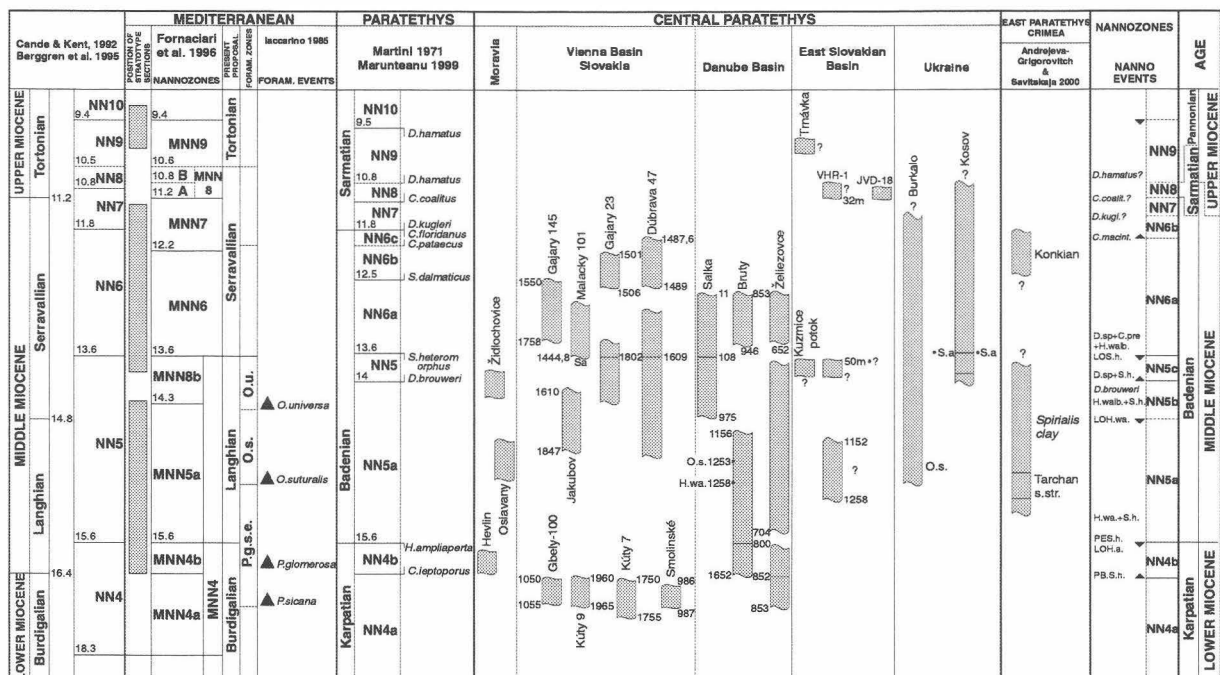


Fig. 1: Compilation of nannofossil zonations of the Mediterranean, Paratethys, Central Paratethys and Eastern Paratethys (after KOVÁČ et al. 2000, HUDÁČKOVÁ 1995, HUDÁČKOVÁ & SLAMKOVÁ 2000, ANDREJEVA-GRIGOROVICH & HALÁSOVÁ 2000).

Nannoplankton association of the NN5b zone (*Sphenolithus heteromorphus*-*Helicosphaera walbersdorfensis*):

Calcidiscus leptoporus, *Calcidiscus premacintyreii*, *Discoaster exilis*, *Discoaster deflandrei*, *Helicosphaera walbersdorfensis*, *Helicosphaera carteri*, *Cyclicargolithus floridanus*, *Orthorhabdulus serratus*, *Holococcolithus macroporus*, *Rhabdosphaera sicca*, *Sphenolithus abies*, *Sphenolithus moriformis*, *Coccolithus miopelagicus*, *Pontosphaera multipora*, *Hayella challengerii*

Nannoplankton association of the NN5c zone (*Sphenolithus heteromorphus*-*Discoaster brouweri*):

Calcidiscus leptoporus, *Calcidiscus premacintyreii*, *Discoaster brouweri*, *Discoaster petaliformis*, *Discoaster exilis*, *Helicosphaera walbersdorfensis*, *Helicosphaera carteri*, *Cyclicargolithus floridanus*, *Holococcolithus macroporus*, *Rhabdosphaera sicca*, *Sphenolithus abies*, *Sphenolithus moriformis*, *Coccolithus miopelagicus*, *Pontosphaera multipora*, *Triquetrorhabdulus rugosus*

Nannoplankton association of the NN6 zone (*Discoaster exilis*):

Calcidiscus leptoporus, *Calcidiscus premacintyreii*, *Sphenolithus abies*, *Sphenolithus moriformis*, *Discoaster exilis*, *Discoaster brouweri*, *Discoaster variabilis*, *Discoaster formosus*, *Discoaster challengerii*, *Reticulofenestra pseudoumbilicus*, *Rhabdosphaera sicca*, *Pontosphaera multipora*, *Triquetrorhabdulus rioi*, *Triquetrorhabdulus rugosus*, *Braarudosphaera bigelowii* (small forms)

Nannoplankton association of the NN8 zone (*Catinaster coalitus*):

Calcidiscus leptoporus, *Calcidiscus premacintyreii*, *Sphenolithus abies*, *Sphenolithus moriformis*, *Reticulofenestra pseudoumbilicus*, *Rhabdosphaera sicca*, *Pontosphaera multipora*, *Braarudosphaera bigelowii* (small forms), *Helicosphaera carteri*, *Helicosphaera intermedia*, *Scyphosphaera lagena*, *Umbilicosphaera rotula*, *Umbilicosphaera jafari*, *Syracosphaera pulchra*, *Calciosolenia murrayi*

Nannoplankton association of the NN9 zone (*Discoaster hamatus*):

Discoaster hamatus, *Calcidiscus leptoporus*, *Calcidiscus premacintyreii*, *Sphenolithus abies*, *Sphenolithus moriformis*, *Reticulofenestra pseudoumbilicus*, *Reticulofenestra* aff. *productella*, *Rhabdosphaera sicca*, *Pontosphaera multipora*, *Braarudosphaera bigelowii* (small forms), *Helicosphaera carteri*, *Helicosphaera intermedia*, *Helicosphaera* cf. *orientalis*, *Scyphosphaera lagena*, *Umbilicosphaera rotula*, *Umbilicosphaera jafari*, *Syracosphaera pulchra*, *Calciosolenia murrayi*

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The position of the Pontian relative to Mediterranean Stages

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Accurate datings of the lower and upper limits of the Pontian stage are of crucial importance for palaeogeographical and palaeoenvironmental reconstructions pertaining to the latest Miocene to Early Pliocene High Resolution Interval 1 (~ 7 - 4 Ma) of the EEDEN Programme. New magnetostratigraphic as well as calcareous nannoplankton data inferred from the upper Maeotian to Dacian records of the Dacic Basin in Romania allow high-resolution correlations with Tortonian, Messinian and Lower Pliocene successions of the Mediterranean. The results demonstrate that the Maeotian – Pontian boundary should be placed at ~ 6.15 Myr, while the Pontian – Dacian boundary has an age of about 5.30 Myr (SNEL et al. in prep.). The occurrences of interbeds with marine calcareous nannoplankton assemblages in upper Maeotian and Pontian deposits of the Eastern Paratethys reflect ephemeral marine incursions from the Mediterranean, probably through the Northern Aegean Corridor.