

Calcareous nannofossils from Oligocene-middle Miocene sediments from the Albanian-Thessalian Basin (Albania): biostratigraphy and paleoecological implications

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The Albanian-Thessalian intramontane Basin (Albania) represents the continuation of the Mesohellenic Trough (Greece). It evolved as a narrow marine basin and preserves three main sedimentary sequences (Pashko *et al.*, 1973) of about 4.7km in thickness (the middle Eocene sequence, the late Rupelian to Aquitanian sequence, and the Burdigalian to Langhian sequence). The investigated transects crop out on both sides of Morava Mountain, which is well known for its continuously exposed litho-formations, belonging to the second and third sedimentary sequences.

A total of 453 samples were collected from several outcrops and were processed for calcareous nannofossils. Quantitative and semi-quantitative analyses were performed on all samples that contained calcareous nannofossils.

The calcareous nannofossil assemblages allowed placement in six standard biozones. The Oligocene epoch was recognized by the presence of NP24 – *Sphenolithus distentus* Zone and NP25 – *Sphenolithus ciperoensis* Zone, while the Miocene contained four biozones: NN2 – *Discoaster druggii* Zone, NN3 – *Sphenolithus belemnos* Zone, NN4 – *Helicosphaera ampliaperta* Zone, and NN5 – *Sphenolithus heteromorphus* Zone. The most

important primary and secondary index species that were identified in the study material are *Cyclicargolithus abisectus*, *Helicosphaera ampliaperta*, *H. mediterranea*, *H. recta*, *H. walberdorfensis*, *H. waltrans*, *Reticulofenestra bisecta*, *Sphenolithus belemnos*, *S. ciperoensis*, *S. conicus*, *S. delphix*, *S. dissimilis*, *S. distentus*, *S. heteromorphus*, *S. predistentus*, *Triquetrorhabdulus carinatus*, and *Zygrh-ablithus bijugatus*.

Fluctuations in calcareous nannofossil abundance and the paleoecological preferences of the most abundant taxa were considered for paleoenvironmental reconstruction of the investigated outcrops.

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References

- Pashko, P., Papa, A., Huta, B. & Myftari, A. 1973. Stratigraphy of the Paleogene and Neogene deposits from tectonic zone of Mirdita. *Archives of Albanian Geological Survey*: 564pp.