

Analysis of the trace fossils from Paleogene formations of the Central Western Carpathian (Orava region)

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Up to now only little attention was dedicated to the study of the trace fossils in the development of the Central Carpathian Paleogene Basin in the Orava region. Occasional trace fossils findings from the Central Carpathian Paleogene formations in the Orava and others regions were referred by Plička (1987). Other specialized works on trace fossils from these formations from the Orava region were not published. Study of trace fossils is strongly influenced by the existence of well exposed outcrops within individual formations. The best exposed outcrops are situated in the basal Borové Formation as well as in the higher parts of Paleogene sequences – mainly in the Zuberec Formation. This preliminary study shows a relatively rich diversity of trace fossils associations across the Central Carpathian Paleogene Basin.

We present new finds of trace fossils, within which we have classified 7 ichnogenera, 11 ichnospecies and 2 types of trace fossils, which were not closely systematically classified. Many trace fossils identified in the Orava region are typical for some palaeoenvironments, which are characterized by a specific lithology, nature of the substrate, dynamics of the environment, amount of nutrients and stability or fluctuations of oxygen

in the bottom waters. The trace fossils assemblages reflect changes of depositional systems during the tectonic and sequence stratigraphic development of the basin. Early Eocene shallow-sea environment of the Borové Formation including the rocky coast, sandy dynamic littoral, transitional and internal shelf zones are characterized by findings of traces of *Entobia*, *Gastrochaenolites*, *Nummipera*, *Ophiomorpha* and *Skolithos*. On the contrary, a significant deepening of the deposition environment during the Oligocene, documented by turbidite sedimentation of Zuberec and Biely Potok formations is characterised by findings of graphoglyptids (*Spirorhappe*, *Nereites*, *Paleodictyon*, *Protopaleodictyon*, *Megagraption*) or traces of deposit feeders (*Arthropycus*, *Chondrites*, *Planolites*, *Phycodes*, *Scolicia*, *Zoophycos*).

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REFERENCES

- Plička M., 1987. Fossil Traces in the Inner-Carpathian Paleogene of Slovakia, Czechoslovakia. *Západné Karpaty. Série Paleontológia*, 12, 125–196.