

Middle Eocene (Bartonian) *Nummulites perforatus* bank from the Transylvanian Basin, Romania: an example from a classical occurrence

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Giant uni-cellulars, *Nummulites* lived in stable oligotrophic environments throughout the Eocene of the Tethys forming large accumulations called “banks” (Arni, 1965), which were identified on the top of the Căpuşu Formation, Transylvanian Basin (Popescu, 1978).

The studied outcrop is located near Căpuşu village, Cluj County where we studied two sections (CA1, CA2). They consist of medium to coarse grained sands with abundant *Nummulites perforatus* (A and B forms). Sporadically specimens of *Nummulites beaumonti* are also present. According to the larger foraminiferal zonation of Serra-Kiel et al. (1998) the studied nummulitic bank is referred to the SBZ 17 Zone (early Bartonian). Specimens were recovered from 6 samples, about 2 kg each, prepared by standard methods.

In section CA1 the A/B ratio ranges between 42/1 and 117/1 while in section CA2 the A/B ratio varies between 27/1 and 52/1. The higher A/B ratio suggests that the original *Nummulites* assemblages was winnowed in situ. By contrast, the lower A/B ratio indicates that the original assemblage was supposedly selectively winnowed (Ainger, 1985), but they are in situ (Seddighi et al., 2015). This interpretation is supported by the fact, that in all samples the *Nummulites* specimens (both A and B form) are bioeroded and abraded, which indicates a shallow water environment with high hydrodynamic activity (Racey, 2001; Papazzoni, 2008).

Based on our observations the studied nummulitic accumulations consist mostly of monospecific assemblages, and they form a bank. The identified biofabrics, the A/B ratio of the assemblages and the presence of both A and B forms support this interpretation. The presence of the abraded *Nummulites* tests further suggest that the studied deposits were sedimented in a shallow water environment with high hydrodynamic activity, probably in a wave dominant setting.

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