



The uplift history of the Middle to Late Miocene Romanian Carpathians: new releases based on paleoenvironments of the Southern Transylvanian Basin (Romania)

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During the Middle to Late Miocene the Transylvanian Basin evolved in backarc position relative to the Carpathians subduction system. As compared to other intra-Carpathian basins its tectonic and sedimentary evolution is markedly different. Middle to early Late Miocene high-subsidence rates favored accumulation of locally more than 3000 m of mainly deep-marine sediments. Shallow-marine deposits were preserved only near the present-day basin margins.

The Late Neogene evolution of the basin was related to the final uplift of the Carpathians. The major tectonic events were recorded by the sedimentation's dynamics and paleoenvironmental changes. Sequence stratigraphic interpretations were used in relation with microfauna paleoecology in order to estimate the amount of relative sea-level changes that occurred during the Middle to Late Miocene. Depth ranges, facies distribution and sedimentologic patterns suggest that a number of relative sea-level falls appear to be related to tectonic events. Facies control on microfossils' distribution also gives a new perspective on the biostratigraphic potential.

Data on facies sequence and distribution provide new insights on paleogeography and uplift history of the Carpathians.