

Middle Miocene paleoenvironments in the Strei Basin (Romania): calcareous nannofossils, micro- and macrofauna and sedimentology

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The investigated area in the Strei Basin is situated between the South Apuseni Mountains and the Sebeş Mountains. The Badenian deposits transgress onto the crystalline rocks of the Sebeş Mountains (Dragoş & Nedelcu, 1957; Gheorghiu, *et al.*, 1962). The most representative section that was analyzed is from Ocolisu Mic. The samples from the lower and upper part of the section contained abundant discoasters and reticulofenestrads. The samples from the lower part of the section also had abundant *Coccolithus pelagicus* and ascidian spicules. *Umbilicosphaera jafari* and *U. rotula* were abundant in samples from the upper part of the section. The calcareous nannoplankton assigned this interval to Zone NN5.

The Badenian deposits contained rare *Neopycnodonte navicularis* bivalves, a stationary epifaunal suspension feeder. In this area, a one-meter-thick tuff level appears. Analyses performed on thin sections indicated a vitric-crystal rhyolitic type for the tuff. The main depositional processes are represented by debris flows and suspension fallout. The facies associations, calcareous

nannoplankton assemblages, and bivalves are indicative of upper slope to shelfal settings. Planktonic/benthic foraminifera ratio trends and the related environments within Ocolisu Mic section suggest that the microfossil communities lived in the following subenvironments: middle shelf, upper bathyal, inner shelf, and outer shelf (100–200m). The calcareous nannoplankton assemblages in the area of Ocolisu Mic belong to Zone NN5, which correlates with the Badenian mollusk Zone *Neopycnodonte navicularis*, confirming a Badenian age for the analyzed deposits.

References

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