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# **Knjiga sažetaka** **Abstracts Book**



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## Miocene Sediments in the Quarry Donje Orešje in SE Medvednica Mt. (N Croatia)

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In the Donje Orešje quarry, in SE Medvednica Mt., Miocene sediments transgressively overly Cretaceous limestones.

Uppermost Cretaceous deposits are in most cases composed of pelagic biomicrites, interstratified with scarce intercalations of biomicrites, of different thickness. Planktonic foraminifera are common in these deposits, including *Globotruncanita elevata* (BROTZEN), indicative for the Lower Campanian age (PREMOLI SILVA & SLITER, 1995). These sediments were deposited in low-energy sedimentary basin, in distal parts of reef-front, with temporary input of reefal detritus, probably due to the storm episodes.

Transgressive contact with Miocene sediments is exposed, showing well developed paleorelief of the Cretaceous land, at some places with *Lithiotis* borings, marking the shore-line. Basal conglomerates, ca. 2 m thick, with pebbles of different Cretaceous sediments, are present at northwestern edge of the quarry. They are overlain with *Lithothamnium* limestones, containing skeletal remnants of large mollusks (*Ostrea*). In most cases, marls directly overly Cretaceous limestones. These marls are yellowish in colour, with yellowish-brown intercalations in the upper portions of the column. Variations in clay content are present, but not very prominent, when observing in the field. Lithologically, these sediments show similar characteristics within the whole column.

In lower parts of the column Upper Badenian Zone *Bulimina-Bolivina* was determined on the basis of foraminiferal community (CICHA et al., 1998). The most common taxa are: *Bolivina dilatata* REUSS, *Cassidulina laevigata* d'ORBIGNY, *Globocassidulina oblonga* (REUSS), *Uvigerina venusta* FRANZENAU, *Cibicidoides pseudoungerianus* (d'ORBIGNY), *Planulina austriaca* (d'ORBIGNY), *Elphidium macellum* (FICHTEL & MOLL) and *Asterigerinata planorbis* (d'ORBIGNY). During the Upper Badenian, oscillations of the sea-level were common, reflecting in content of planktonic taxa, which varies from 1.59 to 85.81%. The most abundant planktonic taxa are *Orbulina universa* d'ORBIGNY, *Globigerinoides trilobus* (REUSS) and *Globigerina bulloides* d'ORBIGNY (BOLLI et al., 1985).

Lithologically similar, but palaeontologically markedly different, Sarmatian sediments were deposited continuously. They contain less abundant fossil communities, with generally smaller specimens. Content of planktonic foraminifera is significantly reduced, and varies from 0.68 to 16.28 %. These results are in concordance with global shallowing-upward trend, and fresh-water influence. On the basis of fossil community, Lower Sarmatian Zones *Anomalinoidea badenensis* and *Elphidium reginum*, as well as Middle Sarmatian Zone *Elphidium hauerinum* were recognized (PAPP et al., 1978). The most abundant species in these sediments are *Anomalinoidea badenensis* (d'ORBIGNY), *Elphidium reginum* (d'ORBIGNY), *Elphidium hauerianum* (d'ORBIGNY), *E. josephinum* (d'ORBIGNY), *Bolivina sarmatica* DIDIKOVSKIY, *Ammonia viennensis* (D'ORBIGNY), and *Rosalina obtusa* d'ORBIGNY.

Samples from the Badenian and Sarmatian marls were also studied on palinological content. Palinomorphs are rather scarce, except algal remnants and protophyta cysts. Climate shifts from almost subtropical to moderate can be observed. Cycadales and *Ambrosia* are markers of warmer periods, while *Artemisia*, *Fagus*, *Carpinus*, *Betula* and several other plant taxa indicate moderate climate periods (NAGY, 1985; REILLE, 1992). Organic content in samples varies from 5 to 35%. The dominant wind directions were from the land towards the sea.

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