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SARMATIAN AND PANNONIAN CLIMATE AND VEGETATION – EVIDENCE FROM NORTH-WESTERN CROATIA

KLIMA I VEGETACIJA SARMATA I PANONA U PODRUČJU SJEVEROZAPADNE HRVATSKE

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Keywords: pollen analysis, vegetation, climate, Sarmatian–Pannonian, NW Croatia

Ključne riječi: analiza polena, vegetacija, klima, sarmat–panon, sjeverozapadna Hrvatska

Numerous diverse and well preserved palynomorpha from the Miocene marls in the vicinity of Zagreb (NW Croatia) have been extracted. Sarmatian to Pannonian age was determined on the basis of microfossils and molluscs (KOCHANSKY-DEVIDÉ & BAJRAKTAREVIĆ, 1981; VRSALJKO, 1999). Determined palynoflora resembles the modern vegetation in the area, with several species typical for the Mediterranean region. Palynomorpha originate from different palaeoenvironments: mixed mesophytic forest, swamp forest, riparian forest and grassland (JIMÉNEZ-MORENO, 2006; IVANOV et al., 2011). Prominent relief, caused by the tectonic uplift, resulted in altitudinal arrangement of vegetation belts (below 700 m, between 700–1,100 m and above 1,100 m). Vegetational changes visible in geological columns point to the oscillations of temperature and precipitation, particularly in the Podsused section. Three palynozones were recognized, reflecting the changes of vegetation through the Middle and Late Miocene in the research area. These results indicate that the calculated mean annual temperature in the study area (11.7°C) was very similar to the present time (11.3°C). Rainfall (1,170 mm) was higher than today (975 mm) (FAQUETTE et al., 1998).

References

- FAQUETTE, S., GUIOT, J. & SUC, J.-P. (1998): A method for climatic reconstruction of the Mediterranean Pliocene using pollen data. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 144, 183–201.
- IVANOV, D., UTESCHER, T., MOSBRUGGER, V., SYABRYAJ, S., DJORDJEVIĆ-MILUTINOVIĆ, D. & MOLCHANOFF, S. (2011): Miocene vegetation and climate dynamics in Eastern and Central Paratethys (Southeastern Europe). – *Palaeogeography, Palaeoclimatology, Palaeoecology*, 304, 262–275.
- JIMÉNEZ-MORENO, G. (2006): Progressive substitution of a subtropical forest for a temperate one during the middle Miocene climate cooling in Central Europe according to palynologi-

cal data from cores Tengelic-2 and Hidas-53 (Pannonian Basin, Hungary). – Review of Palaeobotany and Palynology, 142, 1–14.

KOCHANSKY-DEVIDÉ, V. & BAJRAKTAREVIĆ, Z. (1981): Miocen (baden i sarmat) najzapadnijeg ruba Medvednice. – Geol. vjesnik, 33, 43–49.

VRŠALJKO, D. (1999): The Pannonian Palaeoecology and Biostratigraphy of Molluscs from 300 Kostanjek (Medvednica Mt., Croatia). – Geologia Croatica, 52/1, 9–27.

FROM ORIENTED TO VIRTUAL SECTIONS OF FORAMINIFERAL TESTS, NEW INSIGHTS IN ARCHITECTURE OF LARGER BENTHIC FORAMINIFERA

OD ORIJENTIRANIH DO VIRTUALNIH PRESJEKA FORAMINIFERSKIH KUĆICA, NOVE SPOZNAJE O GRAĐI VELIKIH BENTIČKIH FORAMINIFERA

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Key words: larger benthic foraminifera, thin sections, Micro-CT

Ključne riječi: velike bentičke foraminifere, presjeci, Micro-CT

For the systematic classification of larger benthic foraminifera oriented test sections are necessary, because species are identified based on their internal structures. In this region, KOCHANSKY-DEVIDÉ (1952, 1955) introduced this approach simultaneously promoting micropaleontology as an important part of geological science. Well known are her illustrations in which different sections of the same specimen reveal different characteristics, demonstrating that identification based on random sections is difficult or impossible. How to get a proper section without destroying the test? Traditionally, manual grinding of the test to preferred orientations (axial and equatorial planes) is a way to expose key-characters of isolated specimens. When tests are embedded in rocks, within a large number of random sections a few preferred oriented sections often enable identification. Exposing internal structure by grinding has disadvantages in destroying the shells, it is time consuming and, extensive technical and professional skills are needed. The application of X-ray device and scanning electron microscopy from the 1950s and 1960s resulted in excellent observations and illustrations of fora-