100-TA OBLJETNICA ROĐENJA AKADEMKINJE VANDE KOCHANSKY-DEVIDÉ

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KNJIGA SAŽETAKA / ABSTRACTS

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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

Kljучне ријечи: анализа полена, vegetacija, klima, sarmat–панон, 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-DEVIDĖ & 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) (PAQUETTE et al., 1998).

References


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 palynological data from cores Terdet Laebotany and Palynolab. – Medunarodni znanstveni skup – 100. obljetnica rođenja akademkinje Vande Kochansky-Devidė, International scientific meeting – 100th. birthday anniversary of Vanda Kochansky-Devidė, full member of Academy

FROM ORIENTED TESTS, NEW INVESTIGATIONS

OD ORIJENTIRANIH KUCICA, NOVE INVESTIGACIJE

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Key words: larger benthic foraminifera, Palaeontology

Kljучне ријечи: велке бентичке фарминафинифере, Палаеонтологија

For the systematic classification of larger benthic foraminifera, it is often necessary, because species identification is very difficult in this region, KOCHANSKY-DEVIDĖ, V. et al. (1981) promote the use of micropalaeontological techniques that are her illustrations where internal characteristics are often impossible. How to get to the key characteristic of the species is a way to expose key-characteristic rock, within a large number of shells, by manual grinding of the test, the skill is needed. The application of this technique from the 1950s and 1960s to...
From oriented to virtual sections of foraminiferal tests, new insights in architecture of larger benthic foraminifera

Vlasta Ćosović, Katja Drobné, Janko Cretnik, Janez Turk, Johann Hohenegger & Mateja Gojčič

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


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

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

Ključne riječi: velike benticke foraminifer, 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 formino...