



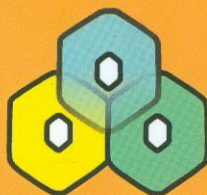
# ACTA

## MINERALOGICA-PETROGRAPHICA

### ABSTRACT SERIES

Volume 8

2014



*5<sup>th</sup> ISGC  
Budapest  
Hungary*

5<sup>th</sup> International Students Geological  
Conference  
Budapest, 24-27 April, 2014





# Middle Miocene fossil assemblages and environments in the wider area of Veternica cave (SW Medvednica Mt., NW Croatia)

<sup>1</sup>Marija Bošnjak, <sup>2</sup>Bojan Karaica, <sup>2</sup>Jasenka Sremac, <sup>1</sup>Davor Vrsaljko, <sup>3</sup>Valentina Hajek-Tadesse, <sup>2</sup>Antonija Gruber, <sup>2</sup>Siniša Jeftinić & <sup>4</sup>Nives Posedi

<sup>1</sup>Croatian Natural History Museum, Zagreb, Croatia (marija.bosnjak@hpm.hr)

<sup>2</sup>University of Zagreb, Faculty of Science, Zagreb, Croatia

<sup>3</sup>Croatian Geological Survey, Zagreb, Croatia

<sup>4</sup>Faculty of Mining, Geology and Petroleum Engineering, Zagreb, Croatia

In SW Medvednica Mt., near the path to Veternica cave, ca. 16 meters high subvertical outcrop with sedimentary rocks is exposed (Fig. 1). Triassic dolomites in the base are transgressively overlain with dolomitic breccias. Breccias gradually pass into middle-grained breccia-conglomerates, and are later replaced with floatstones containing bivalve moulds and dispersed dolomitic cobbles. Dark grey marl above this layer contains molluscs, solitary corals, bryozoans, echinoids and trace fossils. Within this marly sequence, a layer (biostrome) of more compact calcareous marl with branching sessile colonial organisms (? *Porites* sp.) is clearly distinguishable in the field. Upper part of the column is characterized with light-grey coloured marls with molluscs, containing an intercalation of yellowish sandstones with bivalves and gastropods (Fig. 2). Bivalve fauna is present throughout the grey marls, getting more diverse in upper part of the section. Highest biodiversity occurs within the yellow sandstones, where the first gastropods were found.

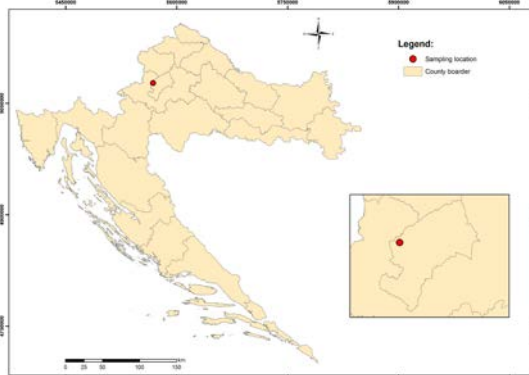


Fig. 1.: Geological setting of the studied area

Determined genera of macrofossils are: gastropods: *Ficus* and *Turritella*; bivalves: *Panope*, *Tellina*, *Lucinoma*, *Corbula*, *Venus* and *Chlamys*; corals: *Flabellum* and ? *Porites*. Additionally, a fragment of irregular echinoid was found. Deeply burrowed Tellinidae are the most abundant molluscs at the exposure, present in a variety of lithologies. Fossils from marls can be determined more easily, because they are preserved with shells. Fossils within yellow sandstones are preserved as casts and moulds.

Marls and sandstones also contain a rich microfossil assemblage: juvenile and fragmented Mollusca, Foraminifera, Ostracoda, Bryozoa, fish teeth and bones, echinoid spines and sponge spicules. Members of the suborder Rotaliina, Textulariina and Miliolina are recognized among benthic Foraminifera.

According to the fossil assemblage analysis, Middle Miocene (Badenian) age of deposits is determined (Kochansky, 1944; Papp & Schmid, 1985; Studencka, 1986). Sediment succession shows

gradual change from shore facies to the deeper inner shelf, reflecting the general transgressive trends in the Central Paratethys, with a short regressive episode and high energy event during the deposition of the yellowish sandstone (Vrsaljko et al., 2006).

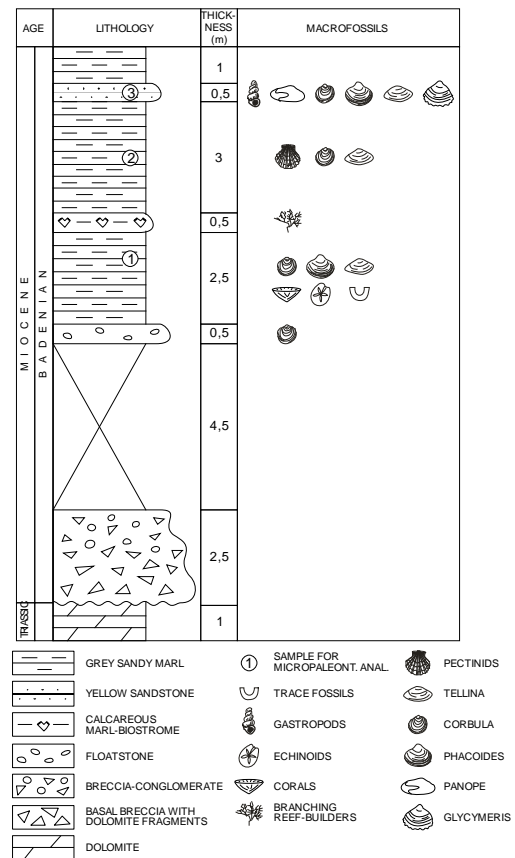


Fig. 2.: Lithostratigraphical column of the investigated outcrop

## References

- Kochansky, V. (1944): Vjestnik Hrv. drž. geol. zavoda i Hrv. drž. geol. muzeja, 2/3, 171-280.  
 Papp, A. & Schmid, M. E. (1985): Abhandlungen der Geologischen Bundesanstalt, Band 37, 311 p.  
 Studencka, B. (1986): Paleontologia Polonica, 47, 3-128.  
 Vrsaljko, D., Pavelić, D., Miknić, M., Brkić, M., Kovačić, M., Hećimović, I., Hajek-Tadesse, V., Avanić, R. & Kurtanjek, N. (2006): Geologia Croatica, 59/1, 51-63.