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Neogene of Central and South-Eastern Europe

ABSTRACTS BOOK

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ABSTRACTS BOOK

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Cover: *Radix croatica* (GORJANOVIĆ-KRAMBERGER, 1890), locality: Gornje Vrapče, photo by: Šimun Aščić; logo design: Morana Hernitz-Kučenjak & Vlasta Premec Fuček

well correlation. Core data was used alongside log data to reduce the uncertainty and to correctly determine rock properties. Image logs interpretation from three wells gave us more detailed insight into drilled formations. Different characteristics such as sedimentary features, layering, fining upward, erosional structures and in situ stress indicators were observed. Combining all available data, detailed lithofacies classification of Upper Miocene sediments was made. The major lithofacies identified are: a) sandstone (massive, parallel and cross-bedded), b) marls (limy and silty) and c) heterolithics (thin alteration of sand/silt/marl). Vertical association of these facies, azimuthal variation in dip pattern and image texture led to identification of different architectural elements of the depositional system: a) sandy channel-lobes complex, b) non channel heterolithics and c) massive marls.

Besides visual inspection of conventional and image logs, automatic electrofacies classification was made using IPSOM which identifies patterns/groups in data using the principles of "self-organizing map" (SOM). IPSOM is based on the rule that each facies is characterized by certain log response. The output is classification curve which is additional help when lithofacies classification is made.

DOLPHIN REMAINS (CETACEA: ODONTOCETI) FROM THE MIDDLE MIOCENE (SARMATIAN) DEPOSITS NEAR NAŠICE, CROATIA

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Dolphin remains were found in an active cement quarry near Našice during the field work in 2016 (Figure 1). The remains were scatered in few blocks of sediment extracted by exploitation from the nearby outcrops. Bones are embedded in finely laminated marls comprising mollusks *Ervilia dissita dissita* (EICHWALD), *Cardium* (*Cerastoderma*) *vindobonense* (PARTSCH & LASKAREV) and *Cardium* (*Cerastoderma*) *gleichenbergense* (PAPP). These marls were deposited in a lagoonar marine environment with reduced salinity during the Sarmatian (KOVAČIĆ et al., 2015).

Sediment blocks with dolphin remains were shortly transported downslope from an undisturbed sedimentary sequence. Rather fragile incomplete right scapula, 18 vertebrae and few more or less completed ribs, probably belonged to a single animal. Three smaller vertebrae from the same sediment block point to another, juvenile specimen, since the epyphyses of the vertebrae are not fused. Two simple, conical teeth of different size were additionally found in the same block. The smaller tooth is complete, while the larger is partially preserved, missing a part of the root. Based on the anatomy and size of the skeletal remains they probably belong to a highly diverse and widely distributed polyphyletic assemblage Kentriodontidae, subfamily Kentridontinae. This subfamily includes small to medium sized dolphins, and it is mostly well known from the Middle or early Upper Miocene deposits in Europe and North America (MARX et al., 2016).

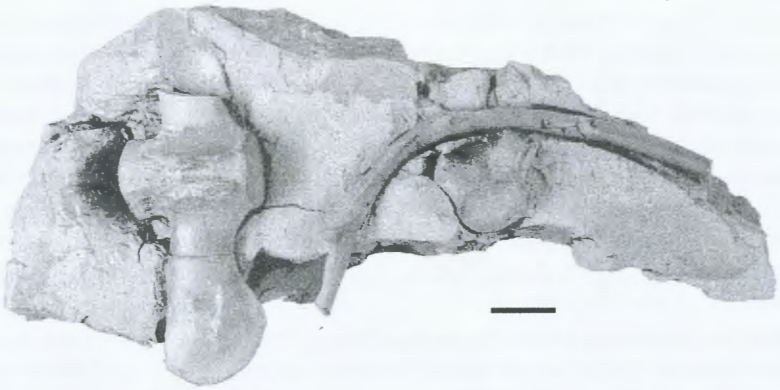

Figure 1. Part of the fossil dolphin's remains from Našice. Scale bar 1 cm.

According to the collected skeletal parts, we can conclude that remains belong to at least two animals, one adult and one young.

Similar remains of Kentridontidae were described from a sand quarry Vranić near Požega (VRSALJKO et al., 2010), but the bones from that locality were fragmented and eroded during the redeposition, and could not be assigned to a specific primary outcrop.

The remains from Našice are therefore more important since they are the first *in situ* findings of kentriodontid dolphins in Croatia.

KOVAČIĆ, M., ĆORIĆ, S., MARKOVIĆ, F., PEZELJ, Đ., VRSALJKO, D., BAKRAČ, K., HAJEK-TADESSE, V., BOŠNJAK MAKOVEC, M., RITOSA, A. & BORTEK, Ž. (2015): Karbonatno-klastični sedimenti srednjeg i gornjeg miocena (kamenolom tvornice cementa kod Našica). In: HORVAT, M. & GALOVIĆ, L. (eds.): Excursion Guide-book, 5th Croatian Geological Congress, Osijek 2015, Croatian Geological Survey, 82–85 (in Croatian).

MARX, F.G., LAMBERT, O. & UHEN, M.D. (2016): Cetacean paleobiology. Wiley Blackwell, X+319 p.

VRSALJKO, D., JAPUNDŽIĆ, S., KOVAČIĆ, M., GRGANIĆ-VRDOLJAK, Z. & PLEŠE, P. (2010): Vranić: najznačanije nalazište fosilnih kitova u Sjevernoj Hrvatskoj. In: HORVAT, M. (ed.): Abstracts book, 4th Croatian Geological Congress, Šibenik 2010, 118–118 (in Croatian).

FIRST FINDING OF THE SARMATIAN FISH ON THE DILJ GORA MT.

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For the first time, almost complete fish remains are recorded in the Sarmatian deposits of Kasonja hill (Figure 1), on the southwestern slopes of the Dilj gora Mt. According to PIKIJA et