Abstract Book and Field Trip Guide

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EUROPEAN ASSOCIATION OF Vertebrate Palaeontologists

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M. Delfino, G. Carnevale & M. Pavia
(editors)
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Logo of the 12th EAVP meeting by Giorgio Carnevale
AN EXCEPTIONAL SMALL VERTEBRATE FAUNA FROM THE LATEST MIDDLE MIocene OF AUSTRIA

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The late Middle Miocene is fascinating for the study of terrestrial palaeoecosystems: following the long period of the Middle Miocene Climatic Optimum, drastic climatic changes induced important faunal re-arrangement and migration within Europe. Rich and diverse fossil faunas are thus of primary importance for the understanding of these processes. The late Middle Miocene is well recorded in various Iberian basins, but complete faunas of this period are rare in Central Europe. Therefore, the recent discovery of an exceptional fossil assemblage of macro- and micro-vertebrates in Gratkorn (early Late Sarmatian, Austria, Styria), allows a fresh look on the palaeocommunity following the Mid-Miocene cooling.

Based on the degree of corrosion on the dental elements and the presence of pellets, most, but not all, of the small mammal remains (19 species) are tentatively interpreted as a result of accumulation by nocturnal raptors. Probably, part of the fossorial individuals of the lower vertebrate (including two fish, eight amphibian and 17 reptile taxa) might have been buried in situ, maybe in their own burrows in the sandy soil.

Lower vertebrates, small mammals and molluscs occur in abundance in the same thin fossil enriched layer, and give a mixed picture of the environment: relatively sparsely vegetated floodplain with sandy soils, including short-lived ponds, streams or rivulets in the close vicinity, relatively open landscapes, with a dry, semi-arid climate. Indications of „forested area“ are indicated by the gliding mammals.

This could indicates the presence of different microhabitats around the excavation place, but mayalso be a taphonomical artefact based on various different agents of accumulation contributing to the thanatocoenosis. Nevertheless, the extreme quick accumulation (decades?) of the fossils.