

## **Preliminary analysis of the large mammal fauna from layers G to K of Grotta Romanelli, Apulia (Southern Italy)**

Beniamino MECOZZI, Luca BELLUCCI, Fabio BONA, Veronica CICIA, Jacopo CONTI, Alessio IANNUCCI, Dawid Adam IURINO, Iliaria MAZZINI, Diana PUSHKINA, Roberta SANZI, Flavia STRANI & Raffaele SARDELLA

B. Mecozzi, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Italy; PaleoFactory, Sapienza Università di Roma, Roma, Italy; [beniamino.mecozzi@uniroma1.it](mailto:beniamino.mecozzi@uniroma1.it)

L. Bellucci, Polo museale, Sapienza Università di Roma, Italy; PaleoFactory, Sapienza Università di Roma, Roma, Italy; Istituto Italiano di Paleontologia Umana, via Ulisse Aldrovandi, 18, 00197, Roma; [luca.bellucci@uniroma1.it](mailto:luca.bellucci@uniroma1.it)

F. Bona, Dipartimento di Scienze della Terra “Ardito Desio” Università di Milano, Italy; [fabgeo@libero.it](mailto:fabgeo@libero.it)

V. Cicia, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Italy; PaleoFactory, Sapienza Università di Roma, Roma, Italy; [cicia.1455974@studenti.uniroma1.it](mailto:cicia.1455974@studenti.uniroma1.it)

J. Conti, Iannucci, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Italy; PaleoFactory, Sapienza Università di Roma, Roma, Italy; [jacopo.conti@uniroma1.it](mailto:jacopo.conti@uniroma1.it)

A. Iannucci, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy; PaleoFactory, Sapienza Università di Roma, Italy; [iannucci.1608212@studenti.uniroma1.it](mailto:iannucci.1608212@studenti.uniroma1.it)

D. A. Iurino, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy; PaleoFactory, Sapienza Università di Roma, Italy; [dawid.iurino@uniroma1.it](mailto:dawid.iurino@uniroma1.it)

I. Mazzini, Istituto di Geologia Ambientale e Geoingegneria (IGAG), CNR, Area della Ricerca di Roma RM1, Via Salaria km 29,300, 00016 Monterotondo Stazione, Roma, Italy; [ilaria.mazzini@igag.cnr.it](mailto:ilaria.mazzini@igag.cnr.it)

D. Pushkina, University of Helsinki, Department of Geosciences and Geography, FI-00014 Helsinki (Finland); [diana.pushkina@gmial.com](mailto:diana.pushkina@gmial.com)

R. Sanzi, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy; PaleoFactory, Sapienza Università di Roma, Italy; [sanzi.1555750@studenti.uniroma1.it](mailto:sanzi.1555750@studenti.uniroma1.it)

F. Strani, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy; PaleoFactory, Sapienza Università di Roma, Italy; Istituto Italiano di Paleontologia Umana, via Ulisse Aldrovandi, 18, 00197, Roma; [flavia.strani@uniroma1.it](mailto:flavia.strani@uniroma1.it)

R. Sardella, Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy; PaleoFactory, Sapienza Università di Roma, Roma, Italy; Istituto Italiano di Paleontologia Umana, via Ulisse Aldrovandi, 18, 00197, Roma; [raffaele.sardella@uniroma1.it](mailto:raffaele.sardella@uniroma1.it)

Since 2015, after 42 years of inactivity in the field, an excavation campaign started at Grotta Romanelli (Castro, Lecce, south-eastern Apulia). The field activities are led by a team from “Sapienza University of Rome”, in collaboration with IGAG CNR and other research institutions. Grotta Romanelli was discovered in 1874 but only in 1900 was recognised as a site of remarkable importance becoming the first report of the Palaeolithic in Italy. In 1914 G.A. Blanc led a pioneering excavation campaign, studying extensively the in-filling deposits. These deposits are bounded by Cretaceous limestone that Blanc considered shaped during MIS5, constraining the age of the deposits to the Late Pleistocene. The succession can be subdivided in two main parts: the upper and the lower complexes divided by the stalagmitic layer F (0-25 cm). The upper complex, known as “terre brune” (layers A-E) (360 cm), bears upper Palaeolithic tools and a cold climate vertebrate fauna including *Pinguinus impennis* (= *Alca impennis*). The “lower complex” includes the so called “terre rosse” (60-80 cm), the stalagmitic layer H (20 cm), the bone breccia (0-100 cm) and the beach deposits (0-60 cm). In the “lower complex” a diversified vertebrate fauna (including *Palaeoloxodon antiquus*, *Hippopotamus amphibius*, *Canis lupus* and other taxa) occur, and

Mousterian limestone artefacts. The two stalagmitic layers (F and H) were dated by Fornaca-Rinaldi by means of the  $^{230}\text{Th}/^{234}\text{Th}$  method, giving respectively an age of  $40 \pm 3.2$  kyr and  $> 69$  kyr. New dating analysis are in progress.

Nowadays, the only data available about the mammal fauna from the “lower complex” are those reported by Blanc. Several authors suggested that the fossil remains of mammals from the “lower complex” could be chronologically referred to the late Middle Pleistocene. In particular, they attributed the canid remains from level G to the Early-Middle Pleistocene *Canis mosbachensis*. Recently, these fossils were studied in detail and were attributed to *Canis lupus*, making the first revision of the palaeontological material from the lower complex. The occurrence of a true wolf is in accordance with a late Middle to Late Pleistocene age for the lower complex.

Also, the rhino remains from the lower complex have been recently described. The rhino material from the layer G, previously referred to *Rhinoceros merckii* (= *Stephanorhinus kirchbergensis*), have recently been revised and referred to the narrow-nosed rhino *Stephanorhinus hemitoechus*. In addition, a single isolated proximal epiphysis of a third metacarpal coming from layer I were attributed to *Coelodonta antiquitatis*.

The collections of the large mammal materials from the “lower complex” hosted at the Pigorini Museum and at the Italian Institute of Human Paleontology (IsIPU) are under revision. Moreover, the study of the new material excavated during the 2015-2017 field activities is in progress, with the main aim to evaluate its biochronological significance. In this scenario, in order to clarify the age of lower complex, a comparison of the palaeontological data with radiometric and stratigraphic analyses is therefore needed to clarify the age of the assemblage.