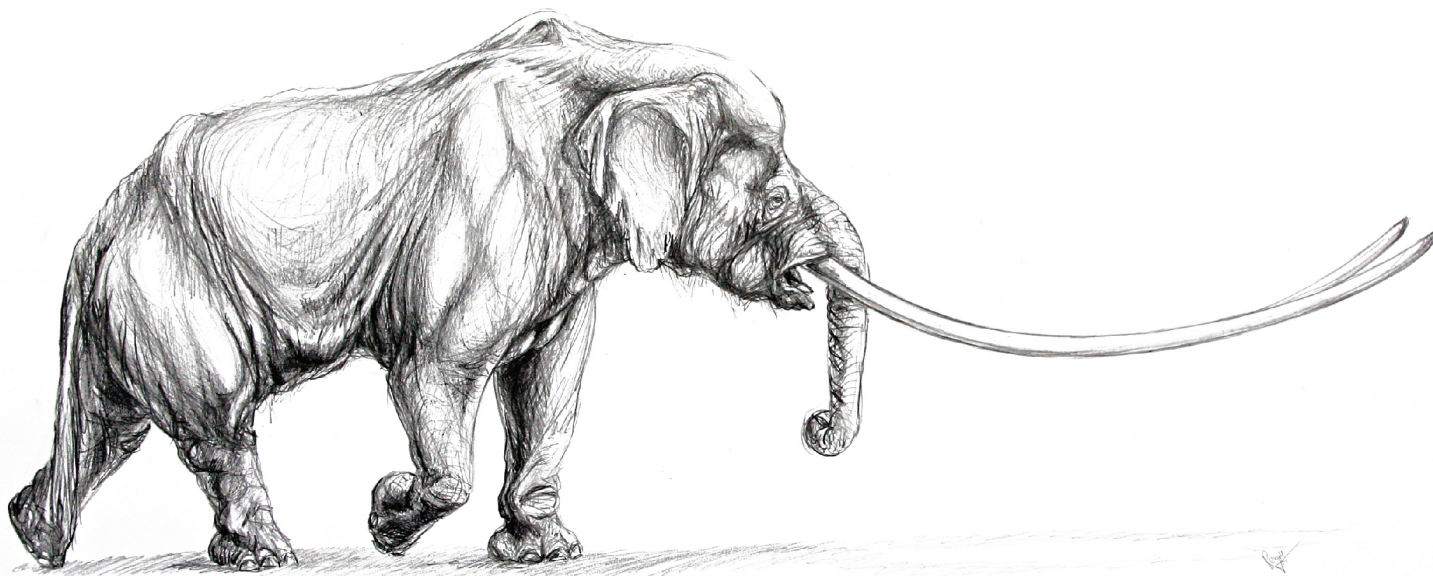




SCIENTIFIC ANNALS of the School of Geology,
Aristotle University of Thessaloniki

SPECIAL VOLUME 102



GREVENA
SIATISTA
GREECE 2014

VIth International
Conference
on Mammoths
and their Relatives

ABSTRACT BOOK

Editors:

Dimitris S. KOSTOPOULOS, Evangelos VLACHOS, and Evangelia TSOUKALA

THESSALONIKI, MAY 2014

Proboscideans without stratigraphic significance: the fate of specimens from the Institute's collection

Jadranka MAUCH LENARDIĆ ✉

In the paleontological collection, stored at the Institute for Quaternary paleontology and geology of the Croatian Academy of Sciences and Arts in Zagreb, there are different findings without any stratigraphic data, from which four interesting proboscidean specimens have been selected and presented. They are unique in the collection because of either their anatomical features (isolated teeth belonging to the same individuum, or juvenile mandible), or their taxonomical belonging (rare species in the collection such as *Anancus arvernensis* and *Palaeoloxodon antiquus*). For two isolated last permanent molars of *Anancus arvernensis* (M3 sin. /catalogue number ZPGK-151-PROB./ and M3 dext. /catalogue number ZPGK-152-PROB./) only approximate location is known, written on the old label, which the present author found together with these remains. On the same label is also written that the teeth were found in the Upper Pliocene sands beside the St. Martin's church in Dugo Selo, small town approximately 20 km eastern from Zagreb, while the year of discovery is unknown. The crowns of these two last lower molars are very well preserved, the roots are missing, and on the basis of the same morphometric characteristics it is concluded that they belonged to the same adult individuum (Fig. 1A; Tab. 1). No other skeletal parts have been found yet. The

area around the St. Martin's church is nowadays inhabited, thus it can be presumed that no further excavations will be possible in the future.

The straight-tusked elephants (*Palaeoloxodon antiquus*) are very rare findings in Croatia. Therefore, another interesting specimen from the Institute's collection is one fragmented mandible of that species with the last left molar (M3 sin.; catalogue number ZPGK-160-PROB.; Fig. 1B; Tab. 1), dredged almost 30 years ago from the bottom of the Adriatic sea (depth cca. 50 m), somewhere near the island of Rab (northern Adriatic). The finding was provided through the courtesy of colleagues from the Institute of Oceanography and Fisheries in Split and the Natural History Museum in Zagreb in 2006. The molar and part of the horizontal ramus were cleaned from thick layer of

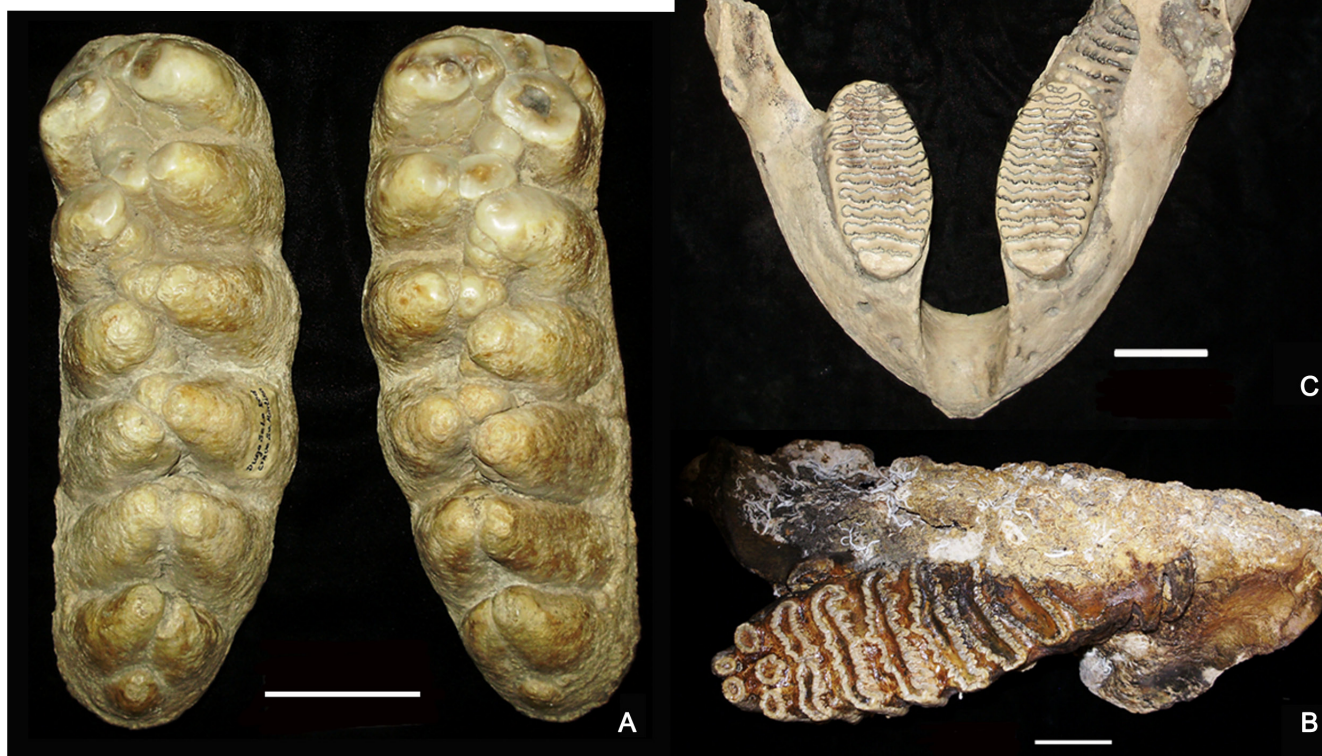


Fig. 1. Selected proboscidean specimens from the paleontological collection stored at the Institute for Quaternary paleontology and geology of the Croatian Academy of Sciences and Arts. A, *Anancus arvernensis*: M3 sin. and dext. (locality: Dugo Selo near Zagreb; catalogue numbers ZPGK-151-PROB. and 152-PROB.); B, *Palaeoloxodon antiquus*: part of mandible with M3 sin. (locality: bottom of the Adriatic sea near the island of Rab; catalogue number ZPGK-160-PROB.); C, *Mammuthus primigenius*: juvenile mandible with dp4 sin. and dext., and M1 sin. (unknown locality; catalogue number ZPGK-101-PROB.). All specimens in occlusal view. Scale bars equal 5 cm.

Table 1. Tooth measurements (L = length, W = width, ET = enamel thickness) of four proboscidean specimens stored at the Institute for Quaternary paleontology and geology of the Croatian Academy of Sciences and Arts.

Taxa	Tooth	L	W	ET
<i>Anancus arvernensis</i>	M ₃ sin./M ₃ dext.	213.5 / 214	80.5 / 81	-
<i>Palaeoloxodon antiquus</i>	M ₃ sin.	250	~80*	2.0
<i>Mammuthus primigenius</i>	dp ₄ sin./dp ₄ dext.	107 / 105.5	52.5 / 51.5	0.9

*, approximate value, while the buccal side of the molar is in alveolus.

marine organisms and sediments, which are still visible on the buccal side of the mandibular ramus and partly on the inner side of the damaged alveolus. The shape of lamellae on the occlusal surface is typical for the straight-tusked elephant (H. van Essen, personal communication), with small abnormality (additional enamel loop) on the buccal side of the III lamella on the posterior part of the crown. Few anterior lamellae had been completely worn off till the roots, and the unknown number is missing on the front part of the crown as well. On the basis of the molar wear pattern, the animal was the most probably in its 40s, or even a bit older.

One juvenile woolly mammoth (*Mammuthus primigenius*) mandible (catalogue number ZPGK-101-PROB.) with last deciduous molars (dp₄ sin. and dext.) which were in function, and first left permanent molar (M₁ sin.) still in alveolus, is the specimen without any location and/or stratigraphic data (Fig. 1C; Tab. 1). The mandible is unique in the Institute's collection. The deciduous teeth are very well preserved, with all 12 lamellae in wear. The crown length and width values are shown in Table 1. The permanent molar was not in function and unworned mammillae are 17 mm under the posterior edge of the occlusal surface of the dp₄ sin., thus the tooth was just in the eruption phase. The age of the animal was approximately 5 to 6 years at the moment of death (according to Haynes, 1999). Although,

there are no data about the site, it is presumed that the specimen originate from the alluvial sediments of some Croatian the biggest rivers, such as Sava, Drava or Dunav (Danube), or their tributary, while the majority of the woolly mammoth remains were discovered in that part of the continental Croatia (Mauch Lenardić, 2011).

Although the mentioned proboscidean specimens do not provide any valuable stratigraphic data, they are unique in the Institute's collection, and significant as the faunal members from the particular region(s), as the proof of the biodiversity during the different geological periods, and are good climate and environmental indicators, respectively.

References

- Haynes, G., 1999. Mammoths, mastodonts, and elephants. Biology, Behavior, and the Fossil Record. Cambridge University Press, Cambridge.
- Mauch Lenardić, J., 2011. Miocene to Late Pleistocene proboscideans of Croatia. Quaternary International 276-277, 120–128.

✉ jml@hazu.hr



Citation:

Mauch Lenardić, J., 2014. Proboscideans without stratigraphic significance: the fate of specimens from the Institute's collection. Abstract Book of the VIth International Conference on Mammoths and their Relatives. S.A.S.G., Special Volume 102: 123-124.