

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

SPECIAL VOLUME 102







ABSTRACT BOOK

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THESSALONIKI, MAY 2014

A partial skeleton of *Elephas antiquus* Falconer & Cautley, 1847 from Eordaia, Macedonia, Greece

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In this paper we present new data on the straight-tusked elephant, *Elephas antiquus*, Falconer & Cautley 1847 from the collections of the Paleontological & Historical Museum of Ptolemaida, Macedonia, Greece, collected in the basin of Eordaia. *E. antiquus* was quite common in Greece during the Middle Pleistocene, well-represented by fossil remains in the area of Florina-Ptolemais basin (Tsoukala et al. 2011; Kevrekidis 2012).

The partial skeleton presented in this paper was discovered in 2005 in the lignite mines of Amyntaio (coordinates: width 40°38′6.63′′ N, length 21°37′36.56′′ E) at a depth of 30 m below the surface and was heavily damaged by a bucket excavator. The remains have been deposited in coarse sand and are well preserved and heavily mineralized. The lithology, the color of the sediments and the species of the elephant indicate that this specimen was part of the Perdikka's Formation.

All the fusions of the epiphyses in the postcranials indicate that we are dealing with an aged individual. Since many of the bones have been found in anatomical connection and cemented together they indicate that the remains are of one and the same individual.

It represents an old and large sized male individual of *E. antiquus*. The recovered material consists of the heavily build skeletal elements described briefly in Table 1. Molar morphology allows ascribing the complete skeleton to *E. antiquus*. The lower m3s have all but one lamella in use. Consequently it should be placed in Laws' (1966) age group XXV, representing 47 +/- 2 AEY (African Equivalent Years) at the time of death.

The maximum length of the heavily built ulna of the Amyntaio elephant indicates a very large individual which stood at least 3500 mm at shoulder when compared with e.g. mammoths from the Late Pleistocene (Mol et al. 2006). The rough weight estimation for the Amyntaio straight-tusked elephant should be between 5 and 7 tons.

The fifth right metacarpal of this individual is deformed due to extreme extra bone growth around the shaft. The articular surface for the first phalanx of this metacarpal is missing due to the deformation. This deformation indicates that the individual was suffering much pain



Fig. 1. **A**, The pathological Mc V connected with the uncinatum, ventral view; **B**, The m3, occlusal view. Scale bar equals 50 mm.

Table 1. The recovered skeletal material of Amyntaio elephant.

Skeletal element	Remarks
Cranium	 Identifiable fragments including: Maxilla with left and right M3 (dental formula ∞16x for left and right). Mandible with left and right m3 with almost all plates in use (dental formula ∞14x for the left and ∞15x for the right). Left and right alveolus with tusk fragments in anatomical position. The maximum diameter of tusks is 203 mm. A complete basihyoid bone. To our knowledge, this is the first time a basihyoid bone of an <i>E. antiquus</i> is reported.
Vertebral column	 Axis, third, fourth and fifth cervical vertebrae. 5 thoracic vertebrae, two of which are cemented together 5 sacral vertebrae (see also Pelvic girdle) 2 caudal vertebrae; one of them being the first caudal vertebra connecting with the sacrum.
Rib cage	- Praesternum with attachments for the first and second pair of ribs; the caudal end is damaged. 35 fragments of ribs from the left and right side of the rib cage; the capitulae are fused.
Front legs	 Left and right scapulae heavily damaged during excavation. Amongst others glenoid and the scapula necks are preserved. Left front leg: humerus, radius and ulna are in anatomical position and cemented together. The distal epiphysis of the radius and ulna are completely fused. The humerus shows at the exterior lateral side of the diaphysis a deep groove (deltoid fossa) of which the bone structure is extremely rough for the attachment of muscles. This morphology is characteristic for the humeri of <i>E. antiquus</i> (Kroll, 1991). Right front leg: humerus, ulna and radius. Left front foot: trapezoid and Mc I completely preserved. Mc I is showing at the distal end an articular surface for the connexion with the first phalanx as well as two articular surfaces at the caudal side for one pair of sesamoids. The Mc I articular surface indicates at least one phalanx was attached which is not always the case in Pleistocene Proboscideans as has been shown by Mol et al. (2006). Right foot: triquetrum, uncinatum, magnum, Mc III, Mc IV and the pathological Mc V are completely preserved. The maximum length of Mc IV is 202 mm being the longest metacarpal of this series
Pelvic girdle	- Both pelvic halves are completely fused; the sacrum is fused with both halves. The pelvic girdle has been heavily damaged by the bucket excavator.
Hind legs	 - Left hind leg: proximal portion of the femur is preserved of which the caput femoris is completely fused. It was found in anatomical position and cemented with the left acetabulum of the pelvis. From the distal end of the left femur only the interior condyle has been preserved showing that it was completely fused with the diaphysis. - Right hind leg: Distal part of the tibia is preserved. The complete calcaneum and an almost complete astragalus were cemented with the navicular, the cuboid, the third cuneiform and Mt III and Mt IV.

during its lifetime and it should be limping. The cause of this deformity could be attributed either to a trauma of the foot or to a bone tumor.

During the Conference field trip to Ptolemaida area, the remains of this discovery will be displayed and discussed in the Museum of Ptolemaida.

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