



Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com



Palaeontology of the upper Miocene vertebrate localities of Nikiti (Chalkidiki Peninsula, Macedonia, Greece) Carnivora[☆]

George D. Koufos



Aristotle University of Thessaloniki, Department of Geology, Laboratory of Geology and Palaeontology, GR-54124 Thessaloniki, Greece

ARTICLE INFO

Article history:

Received 23 October 2014
 Accepted 19 January 2016
 Available online 28 January 2016

Keywords:

Carnivora
 Late Miocene
 Greece
 Taxonomy
 Biostratigraphy

ABSTRACT

The carnivoran sample from Nikiti 2 (NIK) is relatively poor, including a small number of specimens, mainly postcranials. The best-preserved specimen is a skull and mandible, as well as some bones of the common late Miocene hyaenid *Adcrocuta eximia*. The sample of *A. eximia* is similar to the subspecies *A. eximia eximia* from the Turolian of Greece. A second hyaenid species is represented by an upper deciduous dentition; it is smaller than the corresponding dentition of *A. eximia* from the Greek localities of Pikermi, Perivolaki and Ravin de la Pluie. It could belong to a smaller hyaenid, such as the ictitheres *Hyaenictitherium wongii* and *Ictitherium robustum*, or the hyaenid *Lycyaena chaeretis*; all of these taxa have been already found elsewhere in association with *A. eximia*. The machairodontid *Amphimachairodus giganteus* is represented by some postcranial elements. The simultaneous occurrence of *A. e. eximia* and *A. giganteus* indicates a Turolian age for the NIK fauna. *A. eximia* is a common and widespread taxon ranging in Eurasia from the Vallesian to the end of the Turolian, making it useful as a biostratigraphic marker for the beginning of the late Miocene. *A. giganteus* is known in Europe and eastern Asia during the Turolian.

© 2016 Elsevier Masson SAS. All rights reserved.

1. Introduction

Several mammal-bearing fossiliferous sites have been found in the wider area of Nikiti in the Chalkidiki Peninsula (Macedonia, Greece), but only two of them, Nikiti 1 (NKT) and Nikiti 2 (NIK), yielded numerous fossils so far. In both cases, carnivores are poorly represented; until 2005, the sole known carnivoran specimen was a worn isolated DP3 from NKT, which has been reported as *Hyaenidae* indet. (Koufos, 2006a). During the field campaigns of the years 2004–2009, more material was unearthed which enriched remarkably the Nikiti collection, including some carnivore material mainly from NIK. The material is scarce in comparison to equids and bovids, but it is interesting as it provides the first information for the carnivoran fauna of the Nikiti localities. In this article, the available carnivores from NIK are described and compared with those from various Greek localities and surrounding areas. More data about the Nikiti localities as well as their stratigraphy and age are given in Koufos (2016).

2. Material and methods

The studied material includes all carnivores found in NIK. It is housed in the Laboratory of Geology and Palaeontology, University

of Thessaloniki (LGPUT). The measurements were taken using a digital caliper; all are given in mm with an accuracy of 0.1 mm.

Abbreviations: **a.a.c.**, anterior accessory cusp(id); **BSPM**, Bayerische Staatssammlung für Paläontologie und Historische Geologie, München; **DTK**, Dytiko 1, Greece; **LGPUT**, Laboratory of Geology and Palaeontology, University of Thessaloniki; **MNHN**, Muséum National d'Histoire naturelle (Paris, France); **NHML**, Natural History Museum, London (England); **NHMW**, Naturhistorisches Museum, Wien (Austria); **NIK**, Nikiti 2, Greece; **NKT**, Nikiti 1, Greece; **p.a.c.**, posterior accessory cusp(id); **PER**, Perivolaki, Greece; **PIK**, Pikermi, Greece; **RPI**, Ravin de la Pluie, Greece; **RZ1**, Ravin des Zouaves 1, Greece; **RZO**, Ravin des Zouaves 5, Greece; **SLQ**, Salonique, Greece (prefix used for the specimens from the Axios Valley of the Arambourg collection, MNHN).

3. Systematic Palaeontology

Order Carnivora Bowdich, 1821
 Family Hyaenidae Gray, 1821
 Genus *Adcrocuta* Kretzoi, 1938
Adcrocuta eximia (Roth and Wagner, 1854)
 Figs. 1 and 2(g–ad)

Locality: Nikiti 2 (NIK), Chalkidiki, Macedonia, Greece.

Age: Early Turolian, MN 11, late Miocene.

Material: Skull, NIK-1550; left hemimandible with i1-m1, NIK-1551; right hemimandible with i3-m1, NIK-1616; left dp4, NIK-1618; right dp4, NIK-1619; right I2, NIK-1547; left I3, NIK-1542;

[☆] Corresponding editor: Dimitris S. Kostopoulos.

E-mail address: koufos@geo.auth.gr

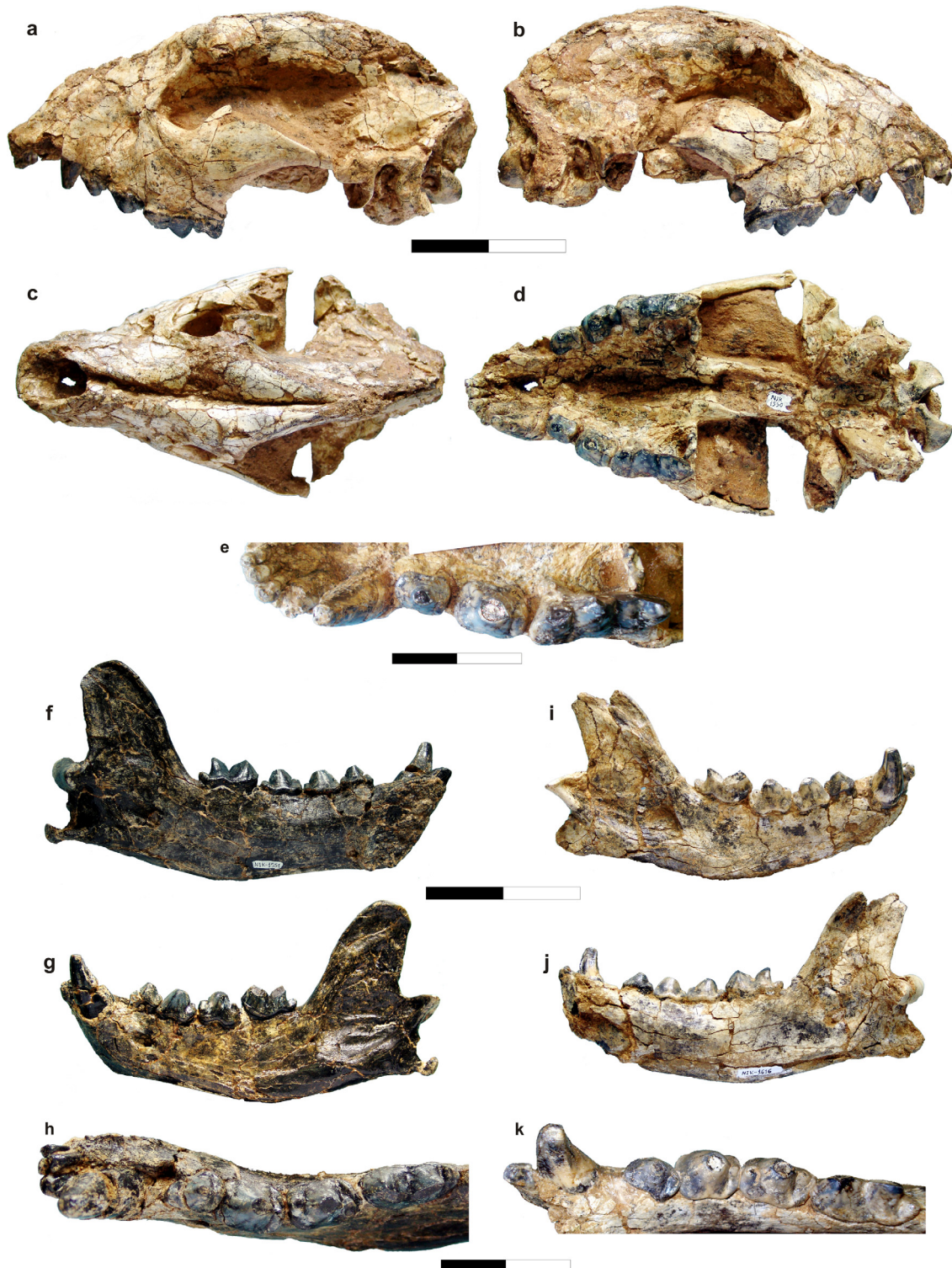


Fig. 1. *Adcrocuta eximia*, Nikiti 2 (NIK), Macedonia, Greece; Early Turolian, MN 11. **a–e.** Skull, NIK-1550. **a:** left lateral view, **b:** right lateral view, **c:** dorsal view, **d:** occlusal view, **e:** right tooth row. **f–h.** Left hemimandible with i1-m1, NIK-1551. **f:** lingual view, **g:** buccal view, **h:** occlusal view. **i–k.** Right hemimandible with i3-m1, NIK-1616. **i:** buccal view, **j:** lingual view, **k:** occlusal view. Scale bars: 8 cm (a–d, f, g, i, j), 2 cm (e, h, k).

radius, NIK-1553; Mc_{IV} , NIK-1916; Mc_V , NIK-1917; distal fragment of tibia, NIK-1621; Mt_{III} , NIK-1620; Mt_{IV} , NIK-1539; Mt_V , NIK-1540; distal fragment of Mt_V , NIK-1548; four first phalanges, NIK-1544, 1549, 1622, 1623; three second phalanges, NIK-1545, 1624, 1625; third phalanx, NIK-1626.

Measurements: See [Tables 1–5](#).

Description: The skull lacks the upper part of the occipital and part of the zygomatic arches ([Fig. 1\(a–d\)](#)), while it is

strongly transversally crushed, including the braincase that is distorted. The distortion of the frontals and nasals resulted in the formation of a deep sagittal groove, which runs along from the posterior end of the frontals to the posterior margin of the nasal cavity ([Fig. 1\(c\)](#)). The orbits are elliptical, high and their anterior margin is located above the P3–P4 contact. In front of them, there is a large infra-orbital foramen located above the mesial half of P3. The zygomatic arches are strong and deep. The

Download English Version:

<https://daneshyari.com/en/article/4747975>

Download Persian Version:

<https://daneshyari.com/article/4747975>

[Daneshyari.com](https://daneshyari.com)