

PRELIMINARY NOTE ON THE VERTEBRATE FAUNA OF BAYRAKTEPE,
SOUTHEAST OF ÇANAKKALE (DARDANELLES)

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SUMMARY. — In 1968 the team of Vertebrate Paleontologists of the M.T.A. Institute discovered in Bayraktepe—a locality southeast of Çanakkale—many marine and continental invertebrates and vertebrates associated in the same pit. For this reason the locality is very interesting for the Mammalian fauna of Turkey.

The circumstance that both marine and continental Mammalian fauna of Miocene and Pliocene age were found located in the same place is considered as a very important factor. In our opinion, this characteristic position will solve many paleontologic and stratigraphic problems and at the same time will be a guide for the Mammalian fauna of the Çanakkale area and, may be, of other localities in Turkey.

We made a preliminary study of the following marine and continental vertebrate fauna from Bayraktepe, which were discovered in 1968:

Castor sp.
Cetotheriidae
Mustelinae (? *Herpestes* sp.)
Ictitherium sp.
Hyaena eximia Roth & Wagner
Proboscidea (*Trilophodon* sp.)
Halitherium (*Metaxytherium*) sp.
Ancitherium ailrelianense Cuvier
Hipparion gracile Kaup
Rhinoceros sp. (? *Aceratherium* sp.)
Listriodon splendens Meyer
Dorcatherium sp.
Palaeotragus sp.
Tragoceraus amaltheus Roth & Wagner
Gazella sp.
Reptilia
Testudo sp.
Different fish jaws and teeth.

In addition to the above fossils there are many vertebrate fragments the determination of which is very difficult. Associated with these fossils, some *Planorbis* sp. and *Unio* sp. were also identified in the same locality.

STRATIGRAPHY

The Çanakkale region was investigated in detail by F. Ozansoy (1966). According to this author, the first *Mactra* level in this area contains green marls in the upper part and yellow sands in the lower part. He mentions the presence of *Unto* sp. of a slightly brackish form in the first *Mactra* level. We found also *Unto* sp. and *Planorbis* sp in this stratum.

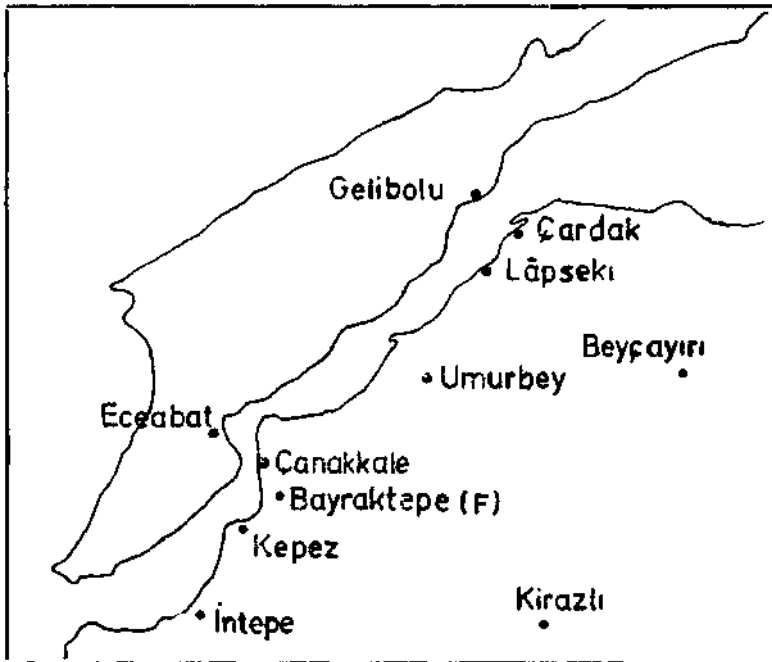


Fig. 1 - Location map of Bayraktepe.

Ozansoy describes a second layer which overlies the first *Maetra* level. This layer consists of two parts. In the lower part there is clay and sand of a dirty white color. The upper part consists of hard, yellow, speckled sandstones. The third stratum, which contains a typical marine fauna, overlies the second stratum, but Ozansoy does not give any information on the lithological character of this level. Above this stratum there is a dirty-white-colored sand and limestone level which is followed by a sandstone stratum containing *Maetra* (the second *Maetra* level). Between this stratum and the third *Maetra* level there are alternations of sandstone, sand and clay.

Fossil bed

This stratum consists of sands containing iron oxide and is rich in fossils. The overlying stratum contains green-colored clays and marls which are sterile.

SYSTEMATIC

Order : CARNIVORA BOWDICH, 1821

Suborder: FISSIPEDA BLUMENBACH, 1791

Superfamily: FELOIDEA SIMPSON, 1931

Family: HYAENIDAE GRAY, 1869

Genus: *Hyaena* BRISSON, 1762

Hyaena eximia ROTH & WAGNER

Materials.— These specimens consist-of calcaneus, metatarsus secunda and phalangis prima.

Calcaneus: It is a left calcaneus which has three broken parts. The upper part of the processus sustentaculum is broken at its connection with the corpus calcaneus. The inner and outer surfaces of the cuboid articularis are worn out and broken.

Metatarsus secunda is complete but slightly worn out.

Phalangis prima is complete.

Horizon. — The end of the Upper Miocene or the beginning of the Lower Pliocene.

Locality. — Bayraktepe, 10 km SE of Çanakkale.

Stratigraphic position of the Vertebrate fauna of Bayraktepe

Pliocene	Astian	
	Plaisancian	
	Pontian	Çarkın Kayadibi, Middle Sinap Ulaş, Sofça, Akçayır
	Pannonian	
Upper Miocene	Messinian	Bayraktepe Lower Sinap
Middle Miocene	Tortonian	Çandır

Description and comparison

The disto-lateral part of calcaneus has a processus which shows the same form and development as is the case with *Hyaena eximia* of Pikermi. In addition, the tuber calcanei (tuber calcis) and the processus calcanei of the specimens found in Bayraktepe and in Pikermi are similar to each other. The measurements of the left calcaneus of *Hyaena eximia* found in Çanakkale are as follows:

Max. (length) : 86.50 mm

Max. (breadth) : 49.30 mm

Metatarsus secunda and *phalangis prima* are not characteristic for the determination of the species. For this reason they were not studied in detail. The measurements of *metatarsus secunda* of *Hyaena eximia* found in the vicinity of Çanakkale are given below:

Length of metatarsus secunda	: 82.10 mm
Length of proximal extremity	: 21.70 mm
Breadth of proximal extremity	: 19.80 mm
Length of distal extremity	: 13.80 mm
Breadth of distal extremity	: 14.60 mm

The measurements of phalangis prima of *Hyaena eximia* of Çanakkale are given below:

Length of phalangis prima	: 37.10 mm
Length of proximal extremity	: 19.40 mm
Breadth of proximal extremity	: 19.90 mm
Length of distal extremity	: 11.20 mm
Breadth of distal extremity	: 13.20 mm

CONCLUSION

The representatives of the vertebrate fauna of Bayraktepe, Çanakkale Province, are very important. Especially *Hyaena eximia* is very interesting. According to Arambourg and Piveteau (1929), *Hyaena eximia* was found only in Pikermi, Baltavar (Hungary), Mont Leberon (France), Libros (Spain), and Maragha (Iran). The remnants of a *Hyaena* found in China and described as a new species, were reported to be similar to *Hyaena eximia* by Arambourg and Piveteau (1929).

Hyaena eximia which was found in Çanakkale strongly indicates to the presence of faunic scale between Europe and Asia. It must be noted also that *Hyaena eximia* of Bayraktepe is stratigraphically older than the same species of Pikermi, Maragha and Mont Leberon (Pontian). This fact is proved by the presence of *Hyaena eximia* in association with *Anchitherium* and *Hipparion* in the Mammalian fauna of Bayraktepe, while such association was not observed in any of the localities mentioned above. Therefore the presence of *Hyaena eximia* in association with *Anchitherium* and *Hipparion* in the Çanakkale Province indicates most probably the end of the Upper Miocene or the beginning of the Lower Pliocene.

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Fig. 1 - Calcaneus of *Hyaena eximia*, inner view.

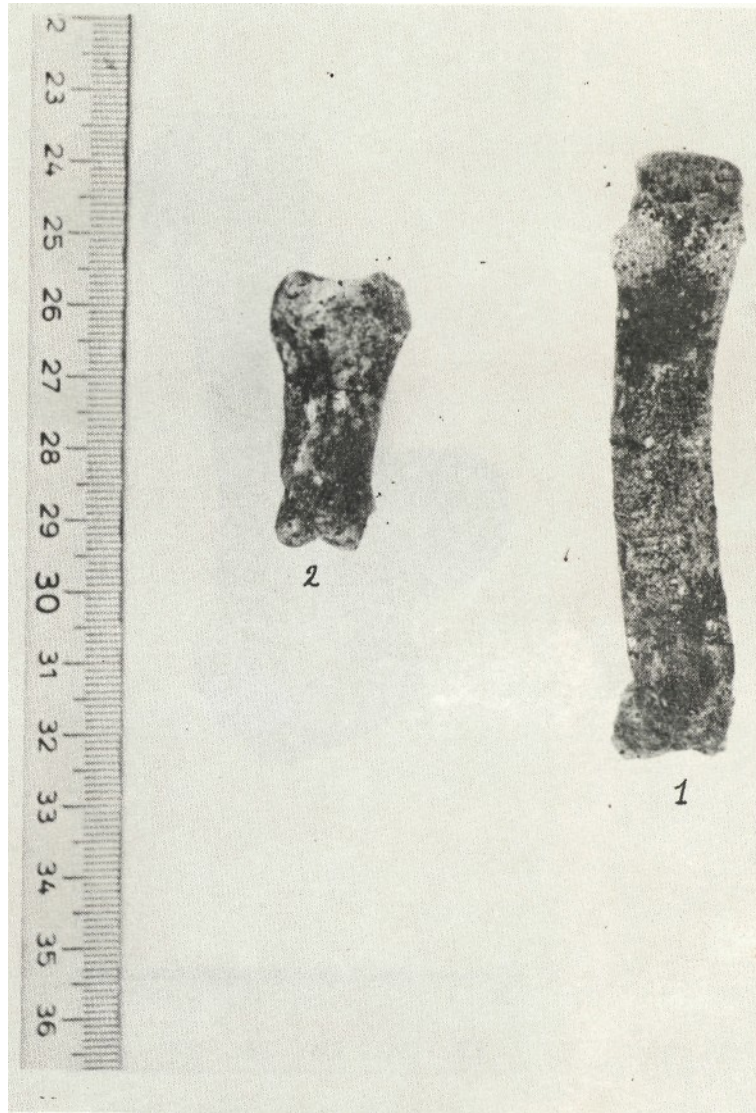


Fig. 2 - Phalanges prima of *Hyaena eximia*, dorsal view.

Fig. 1 - Metatarsus of *Hyaena eximia*, dorsal view.