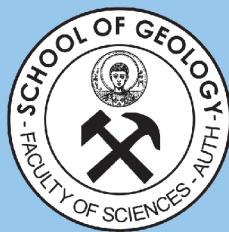
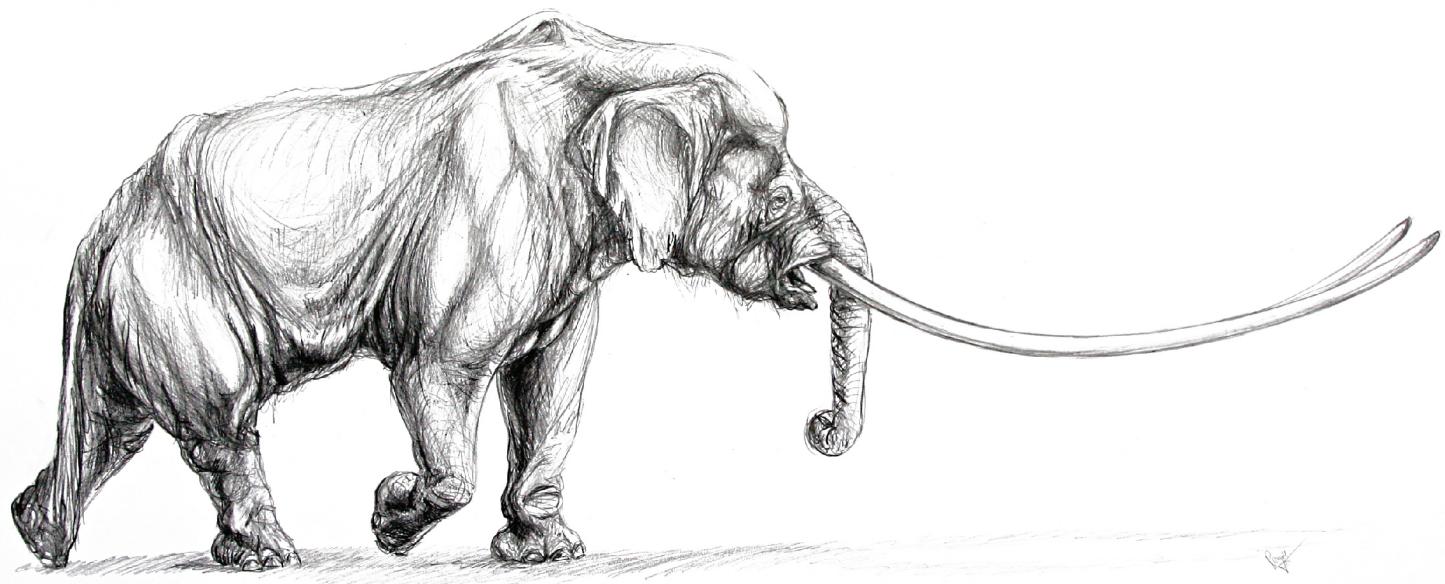




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ABSTRACT BOOK

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Choerolophodon pentelici (Gaudry & Lartet, 1856) from the Turolian locality of Kryopigi (Kassandra, Chalkidiki, Greece)

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Herein, we document proboscidean remains from the Kryopigi locality (Kassandra peninsula, Macedonia, Greece). The fossiliferous layer consists of fluvial sediments that include a rather rich fauna of about 25 vertebrate species (including aves and reptilian). These have been systematically excavated during last fifteen years. Proboscidean fossil material consists of mandible, dental and postcranial elements. Besides a unworn lower molar, all other teeth are deciduous. The morphology of the molar shows choerodonty, ptychodonty, cementodonty and chevroning that are typical characters

articulated, is provisionally attributed to *Choerolophodon pentelici*.

Choerolophodon pentelici is known in Greece from Late Vallesian (MN10) localities with primitive forms: Ravin de la Pluie, Ravin des Zouaves-1 and Xirochori (Konidaris and Koufos, 2013) up to the Mio-Pliocene boundary (MN13/14) in Maramena locality (Schmidt-Kittler et al., 1995). The similarity of the Kryopigi *C. pentelici* with the typical Turolian representatives correlates to a proposed age for the locality of the latter half of the Turolian (Lazaridis and Tsoukala, 2014).

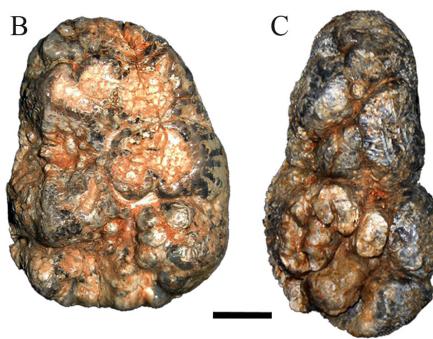
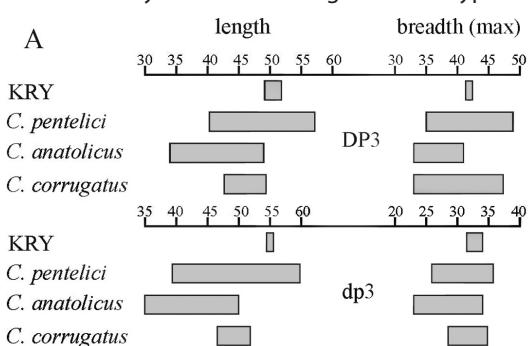


Fig. 1. A, Diagram comparing the observed range of length and breadth (maximum) of Kryopigi *Choerolophodon* with that of *C. pentelici*, *C. anatolicus* and *C. corrugatus* (Gaziry, 1976; Tassy, 1983; Tassy, 1994; Sanders, 2003; Konidaris and Koufos, 2013) from various localities; B, right DP3 KRY5077; C, left dp3 KRY125. Scale: 10 mm.

for *Choerolophodon* (Schlesinger, 1917; Tobien, 1973; Sanders, 2003; Tassy, 1983; 2005). We have thus compared the Kryopigi deciduous dentition to that of three Late Miocene *Choerolophodon* species of Eurasia: *C. anatolicus*, *C. corrugatus* and *C. pentelici*.

Kryopigi deciduous dentition is antero-posterior longer than that of *C. anatolicus* and overlaps with that of *C. corrugatus*; the upper and lower third deciduous premolars are longer. The breadth distinguishes the material from *C. anatolicus* (Fig. 1). All dimensions are inside the observed range of *C. pentelici* and commonly close to the mean value for each tooth.

The morphology of the upper and lower third deciduous premolar differentiates the Kryopigi *Choerolophodon* from *C. anatolicus*: the upper teeth show well-developed second ectoflexus, the postrite part of the postcingulum is well separated from the metacone and a complex pattern of postcingulum emerged from numerous conules and lower teeth due to well-developed postcingulum and second ectoflexus (Sanders, 2003). Moreover, another trait of *C. pentelici* found in DP2 is the connection of paracone and hypocone with a crest-like alignment of central conules (Tassy, 2005). The overall size and morphology of the Kryopigi deciduous teeth varies from that of primitive Vallesian *C. pentelici* of Greece (Konidaris and Koufos, 2013).

Choerolophodon pentelici is the most common taxon found in the Late Miocene localities of the Greco-Iranian Province. It has been reported associated with other proboscideans such as *Deinotherium giganteum*, *Deinotherium gigantissimum*, "Mammut" sp. and *Konobelodon atticus* (Konidaris and Koufos, 2013). *Deinotherium giganteum* has been identified in Kassandra Peninsula (Tsoukala and Melentis, 1994).

The fossil collection of Kryopigi contains several thousands specimens, but no other proboscideans have been identified. This could be due to taphonomical, paleoenvironmental, or chronological reasons. The postcranial material, even though not

References

- Gaziry, A.W., 1976. Jungtertiäre Mastodonten aus Anatolien (Türkei). Geologisches Jahrbuch, 22, 3-143.
- Konidaris, G. E., Koufos, G. D., 2013. Late Miocene Proboscidea (Mammalia) from Macedonia and Samos Island, Greece: preliminary results. Paläontologische Zeitschrift, 87, 121-140.
- Lazaridis, G., Tsoukala, E., 2014. *Hipparium phlegra*, sp. nov. (Mammalia, Perissodactyla): a new species from the Turolian locality of Kryopigi (Kassandra, Chalkidiki, Greece). Journal of Vertebrate Paleontology 34(1), 164-178.
- Sanders, W.J., 2003. Proboscidea. In: M. Fortelius, J. Kappelman, S. Sen, and R.L. Bernor (eds.), Geology and Paleontology of the Miocene Sinap Formation, Turkey, pp. 202-219. Columbia University Press, New York.
- Schlesinger, G., 1917. Die Mastodonten des K. K. Naturhistorischen Hofmuseums. Denkschriften des K. K. Naturhistorischen Hofmuseums, 1, 1-230.
- Schmidt-Kittler, N., De Brujin, H., Doukas, C., 1995. 1. General introduction, p. 9-18. In: N. Schmidt-Kittler (ed.), The vertebrate locality of Maramena (Macedonia, Greece) at the Turolian-Ruscinian boundary (Neogene). Volume 28. Münchner Geowissenschaftliche Abhandlungen, München.
- Tassy, P., 1983. Les Elephantidae Miocènes du Plateau du Potwar, Groupe de Siwalik, Pakistan. Ile Partie: Choerolophodontes et Gomphothères. Annales de Paléontologie, 69(3), 235-297.
- Tassy, P., 1994. Les gisements de mammifères du Miocène supérieur de Kemiklitepe, Turquie: 7. Proboscidea (Mammalia). Bulletin du Muséum National d'Histoire Naturelle, 16(1), 143-157.
- Tassy, P., 2005. Proboscideans (Mammalia) from the late Miocene of Akkaşdağı, Turkey, in Sen S. (ed.), Geology, mammals and environments at Akkaşdağı, Late Miocene of Central Anatolia. Geodiversitas 27 (4), 707-714.
- Tobien, H., 1973. On the Evolution of Mastodonts (Proboscidea, Mammalia). Part I: The bunodont trilophodont Groups. Notizblatt des Hessischen Landesamtes für Bodenforschung zu Wiesbaden, 101, 202-276.
- Tsoukala, E., Melentis, J., 1994. *Deinotherium giganteum* Kaup (Proboscidea) from Kassandra peninsula (Chalkidiki, Macedonia, Greece). Geobios 27, 633-640.

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