

The endemic elephants of Cyprus: a reconsideration of their variation and taxonomy based on new fossil finds

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References

- Cyprus, an oceanic island that remained isolated from the mainland since its emergence, is characterized by the presence of a highly impoverished, endemic mammalian fauna of Late Pleistocene to early Holocene age. The main element of this fauna is an extremely dwarfed hippo, *Phanourios minor* (Desmarest, 1822), abundantly found in many sites across the island (Boekschoten & Sondaar, 1972; Reese, 1995; Theodorou et al., 2004). Other known taxa include a rodent, bats, a genet (*Genetta plesictoides* Bate, 1903) and a dwarf elephant [*Palaeoloxodon cypriotes* (Bate, 1903)] (Bate, 1903, 1904; Reese, 1995; Theodorou et al., 2007a; van der Geer et al., 2010).
- Endemic elephants are a common element of insular faunas. *Palaeoloxodon cypriotes* is a very small elephant species, roughly comparable in size with the Maltese-Sicilian *P. falconeri*, as it is inferred by dental dimensions. It quite probably derived from a *P. antiquus* founder population that reached the island during the Late Pleistocene. The species is known from more than fifteen sites but the available material is scanty (Bate, 1904; Reese, 1995; Herridge, 2010; Filippidi et al., 2013), particularly with respect to the hippo finds.
- The possibility of the existence of a second endemic elephant in Cyprus, larger than *P. cypriotes*, has been already expressed quite early (Vaufrey, 1929), and subsequently discussed by several authors, but the available remains were insufficient for an adequate description. New material from SE Cyprus (Achna, Ormideia and Xylophagou areas) accumulated during the last decades by private collectors and excavations (Boekschoten & Sondaar, 1972; Reese, 1995; Theodorou et al., 2005; Iliopoulos et al., 2011) corroborates this. The available material includes a partial skull, mandibles, long bones, and isolated tusk and molars. The finds indicate an animal quite larger than *P. cypriotes*, of a size comparable to that of Tilos elephant, *P. tiliensis* (Theodorou et al., 2007b).
- The cranial and dental morphology (wide frontoparietal area, diverging tusk alveoli, occlusal shape and enamel pattern) offers evidence of close phylogenetic affinities with *P. antiquus*. Though some of the new sites are dated in the early Late Pleistocene (Poole and Robertson, 1998; Theodorou et al., 2005), the stratigraphic range of the larger Cypriot elephant is presently not well known, especially with respect to the range of *P. cypriotes*. Some *P. cypriotes* - bearing sites have been dated to the latest Pleistocene – early Holocene, but methodological issues limit the reliability of these dates (Herridge, 2010). It is probable that the larger Cypriot form is more ancient than *P. cypriotes*, but this has to be corroborated by new datings.
- This research was partly financed through the UoA projects 70/3/10788, 70/3/7093 and 70/3/10323.
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Citation:

Athanassiou, A., Reese, D., Iliopoulos, G., Herridge, V., Roussiakis, S., Mitsopoulou, V., Tsiolakis, E., Theodorou, G., 2014. The endemic elephants of Cyprus: a reconsideration of their variation and taxonomy based on new fossil finds. Abstract Book of the VIth International Conference on Mammoths and their Relatives. S.A.S.G., Special Volume 102: 24.