

Large mammal footprints from the Late Miocene of Western Crete

Iliopoulos G.^{1,2}, Roussiakis S.³ and Fassoulas C.²

¹Department of Geology, University of Patras, 26504, Rio Patra, Greece, iliopoulosg@upatras.gr

²Natural History Museum of Crete, University of Crete, P.O. Box 2208, 71409, Heraklion Crete, Greece, fassoulas@nhmc.uoc.gr

³Department of Historical Geology and Palaeontology, University of Athens, 15784, Zografou, Greece, srousiak@geol.uoa.gr

Although terrestrial Miocene deposits as well as faunal and floral findings are numerous and widespread in Greek Neogene sedimentary rocks, trace fossils are sparse and are limited mainly to casts of roots and invertebrate ichnofossils. No footprints of terrestrial vertebrates and especially of mammals have been reported from the Greek Neogene to date. This is fairly strange considering that there are several important Miocene mammal localities such as Pikermi, Samos, the Axios valley localities and many others found all over Greece. Terrestrial mammal localities of Miocene age have also been reported from the island of Crete. Although not many, still their number is considered adequate and they are located all over the island. Until now nine localities have been traced; five in Lassithi prefecture, one in Heraklion prefecture, two in Rethymnon prefecture and one in Chania prefecture. Their age spans from the Middle to the Late Miocene. The oldest one is Melambes in Rethymno and the youngest one Vrysses in Chania.

Although the identified terrestrial deposits and findings are very sparse in Western Crete, a new locality has been discovered recently where footprints of terrestrial mammals were exposed. The actual locality is situated near the village Vouves, to the west of the city of Chania. The ichnofossils come from lacustrine deposits that belong to the Roka Formation. The identified footprints were exposed at a low section located in a cultivated area. Two ichnotaxa are represented in the findings so far. The first and more impressive finding is a very well defined footprint that can be related with an average sized felid (ichnofossil *Felipeda*). The second group of footprints are the traces of Ruminant hoofs. More specifically the “hoof” traces belong to a large sized ruminant. The felid footprint has a maximum anteroposterior diameter of 126 mm and a transverse diameter of 95 mm. It constitutes a cast where not only the imprint of the foot with the four fingers is well preserved, but also the full traces of the claws of all four fingers. They have also been cast and preserved, indicating that the claws had been drawn out of their sheaths at the time of the imprint’s formation. The size of the largest ruminant footprint has an anteroposterior diameter of 115 mm and a transverse diameter of 93 mm. These footprints were moulds of the original hoofs, clear but not so well defined as the felid one. The age of nearby marine deposits of the Roka Formation is considered as Tortonian. Therefore, an equivalent age can also be inferred for the fossiliferous layer with the footprints. This is the first recorded case of footprint trace fossil findings from Neogene sedimentary deposits of Crete and Greece in general. In addition these findings provide more evidence for the presence of well established terrestrial environments and faunas in the area of Crete during the Late Miocene.

Slovak gemstones

Illašová L.¹ and Spišiak J.²

¹Faculty of Natural sciences, Constantine the Philosopher University Tr. A. Hlinku 1, 94974 Nitra, Slovakia, ludka.illasova@gmail.com

²Faculty of natural Sciences, Matej Bel University, Tajovského 40, 97401 Banská Bystrica, Slovakia, spisiak@fpv.umb.sk

In present-day Slovakia the survey in gemology has been oriented to searching for new gemstone deposits and to proving their quality. Suitable kinds of siliceous materials, which have not been examined for these purposes until now, have been discovered. *Obsidians* were found in eastern Slovakia, with their qualities predetermining them for use as chipped stone implements far in the past. In addition to sharp chipped edges that were used to function as various cutting implements, obsidians are attracting our attention by their black colour and