LOWER CRETACEOUS DINOSAUR TRACKS FROM THE SEASHORE AREAS OF CASCAIS AND SINTRA (WEST PORTUGAL): ITS IMPORTANT CONTRIBUTION FOR TOURISTIC ROUTES ENHANCED BY THE GEOLOGICAL HERITAGE

V.F. Santos^{1,2}, F. Barroso-Barcenilla^{3,4}, P.M. Callapez^{2,5}, D. Castanera⁶, C.A. Cupeto⁷ & N.P.C. Rodrigues¹

¹Museu Nacional de História Natural e da Ciência – UL, Rua da Escola Politécnica, 58, 1250-102 Lisboa, Portugal. vsantos@museus.ul.pt, nunopcrodrigues@museus.ul.pt.

²Centro de Investigação da Terra e do Espaço da Universidade de Coimbra – CITEUC, Avenida Dr. Dias da Silva, 3000-134 Coimbra, Portugal.

³Departamento de Paleontología, Facultad de Ciencias Geológicas, Universidad Complutense de Madrid, 28040 Madrid, Spain. fbarroso@geo.ucm.es.

⁴Grupo de Investigación IberCreta, Universidad de Alcalá de Henares, 28871 Alcalá de Henares, Spain.

⁵Departamento de Ciências da Terra da Universidade de Coimbra, Largo Marquês de Pombal, 3001-401 Coimbra, Portugal. callapez@dct.uc.pt. ⁶Grupo Aragosaurus-IUCA, Paleontología, Facultad de Ciencias, Universidad de Zaragoza, Calle Pedro Cerbuna, 12, 50009 Zaragoza, Spain. dcastanera@unizar.es. ⁷Departamento de Geociências da Universidade de Évora, Rua Romão Ramalho, 59, 7000-671 Évora, Portugal. cupeto@uevora.pt.

Dinosaur tracksites have a huge potential for touristic and educational purposes. This capability to attract people for hidden aspects of Earth's history and life of the past is even more emphasized when these occurrences appear in touristic areas. An accurate geoconservation followed by the implementation of field strategies destined to reveal these sites to the general public, may result in the creation of new and attractive touristic offers with socioeconomic relevance.

This is the case of Parede beach, a famous touristic area located about 20 km from Lisboa, near Cascais, where one of the few dinosaur tracksites known from the Lower Cretaceous of Portugal can be observed. An overview of the nearly horizontal track level situated in front of the "Terrace Bar Xana" puts in evidence a main sequence of footprints interpreted as a sauropod trackway. Sauropod tracks from the Lower Cretaceous of Portugal have been previously known only at Praia Grande, near Sintra, not far away from Lisboa. Here, the dinosaur tracks are preserved in a vertical track level.

The Cascais and Sintra seashore areas are among the most searched touristic destinies in the country. They are very appreciated by their outstanding seaside landscapes, plenty of sandy beaches and a large shoreline of vertical cliffs cut in Lower Cretaceous carbonate units of the Lusitanian Basin. Both tracksites are exposed near the recent seashore, but about 110 million years ago, the dinosaurs passed through at a quite different environment of littoral plain with carbonated sandy shoals and tidal lagoons. This area belonged to the proximal sector of a Tethyan carbonate platform.

Alongside their scientific importance, these sites are plenty of educational and cultural relevance, since dinosaur tracksites have been considered crucial places for the non-formal teaching of Geology and Palaeontology. They offer the more consistent way of learning Earth Sciences: learning *in situ*. So, it is important to consider the potential of dinosaur tracksites as a key factor to the promotion, protection and conservation of the natural heritage for the future generations.





