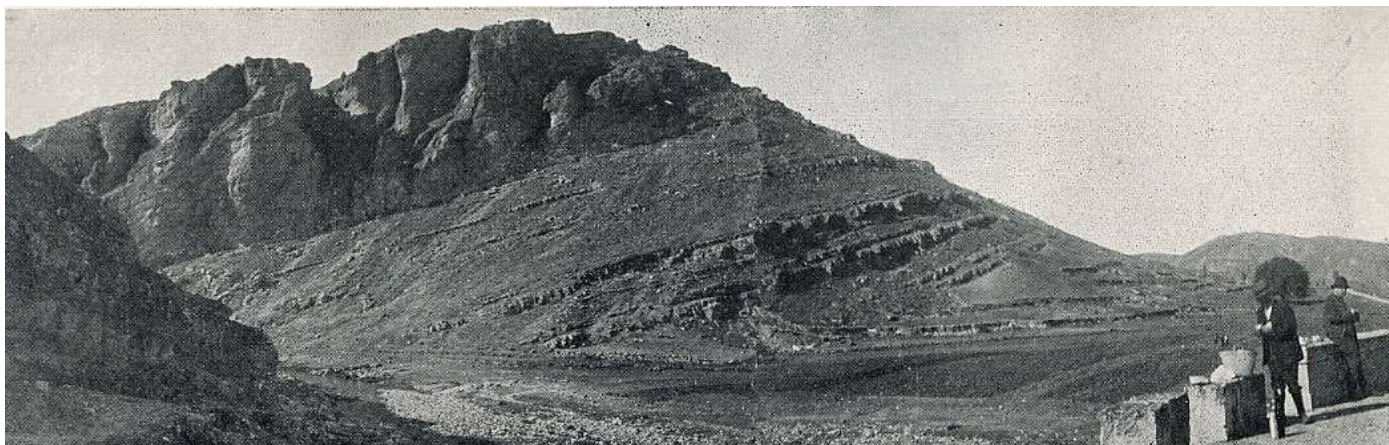




V CONGRESO DEL CRETÁCICO DE ESPAÑA

García-Hidalgo, J.F., Gil-Gil, J., Barroso-Barcenilla, F.,
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LOWER CRETACEOUS DINOSAUR TRACKSITES AS PART OF THE ALGARVE NATURAL HERITAGE (PORTUGAL)

Vanda F. Santos^{1,2}, Pedro M. Callapez^{2,3}, Nuno P.C. Rodrigues¹, Paulo Fernandes⁴ and Luís A. Rodrigues⁵

¹ Museu Nacional de História Natural e da Ciência, Rua da Escola Politécnica 58, 1250-102 Lisboa, Portugal.

vsantos@museus.ul.pt, nunopcrodrigues@museus.ul.pt

² Centro de Geofísica da Universidade de Coimbra, Avenida Dr. Dias da Silva, 3000-134 Coimbra, Portugal.

³ Departamento de Ciências da Terra da Universidade de Coimbra, Largo Marquês de Pombal, 3001-401 Coimbra, Portugal. callapez@dct.uc.pt

⁴ Universidade do Algarve, Centro de Investigação Marinha e Ambiental, Campus de Gambelas, Ed. 7, 8000 Faro. pfernandes@ualg.pt

⁵ Centro Ciência Viva de Lagos, Rua Dr. Faria e Silva 34, 8600-734 Lagos, Portugal. lrodrigues@cienciaviva.pt

Dinosaur footprints from at least five track levels of Early Barremian age can easily be appreciated by the general public at Santa beach and Salema beach, two rocky cliff areas with well-exposed strata of Lower Cretaceous carbonates (Fig. 1) situated near Vila do Bispo (southwest Algarve, Portugal).

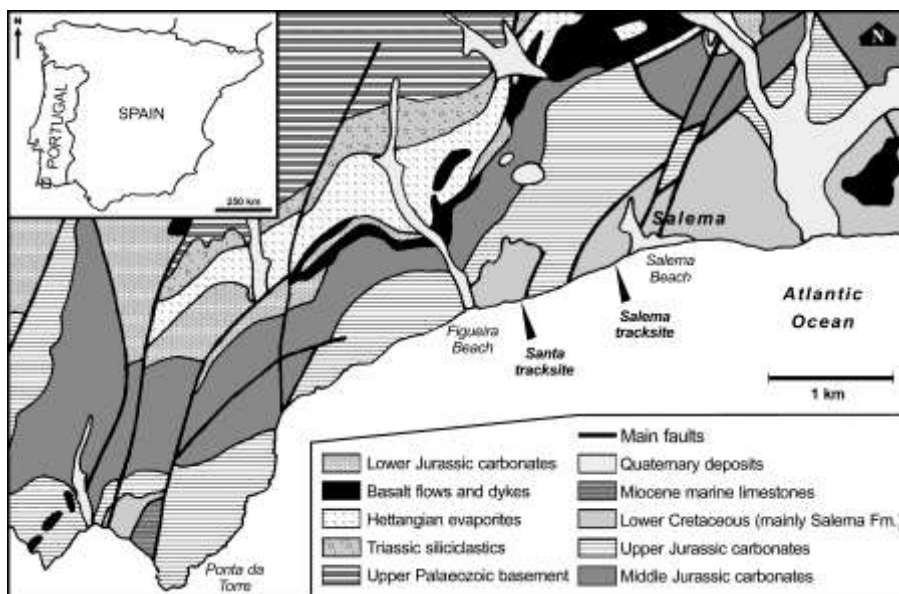


Figure 1: Simplified geological sketch of the Mesozoic border of the western Algarve (Portugal) showing the location of the Santa and Salema dinosaur tracksites; adapted from the Map 52-A (Portimão) of the Geological Map of Portugal, scale 1:50000, of the Serviços Geológicos de Portugal (Rocha et al., 1983). Modified from Santos et al., 2013.

The presence of well-preserved *Iguanodontipus* tracks at Santa tracksite (Fig. 2A,B) allowed us to identify iguanodontian dinosaurs in this region (Santos et al., 2013). Theropod footprints can be easily recognized at Salema tracksite as well as an ornithopod trackway (Fig. 2C,D), possibly made by an iguanodontian. These tracks are preserved in marginal-marine limestone and dolomite beds that record the existence in this region of a large inner shelf palaeoenvironment with shoals and tidal-flat areas that were periodically exposed, as it was illustrated in Rosa (2013). The warm and dry climate that existed 125-130 million years ago favoured an extensive growth of algal mats and the deposition of dolomitic sediments. Palaeontological studies allowed us to infer the presence in these tracksites of iguanodontian dinosaurs having posterior limbs with a hip height of 1.8 and 2.4 m that moved at speeds ranging from 3.1 to 4.4 km/h.

Iguanodon, *Delapparentia* or other still unidentified or undescribed taxa from the Iberian Peninsula are the possible trackmakers of the dinosaur footprints assigned to the ichnogenus *Iguanodontipus* (Rosa, 2013; Santos et al., 2013), like those of the Santa tracksite, and other tracks with similar morphology like the ones of the Salema tracksite. The occurrence of this iguanodontian track record shed light on the palaeobiogeography of this dinosaur group because it indicates that the southern European range of these ornithopod dinosaurs reached the south of the Iberian Massif during the Early Barremian.

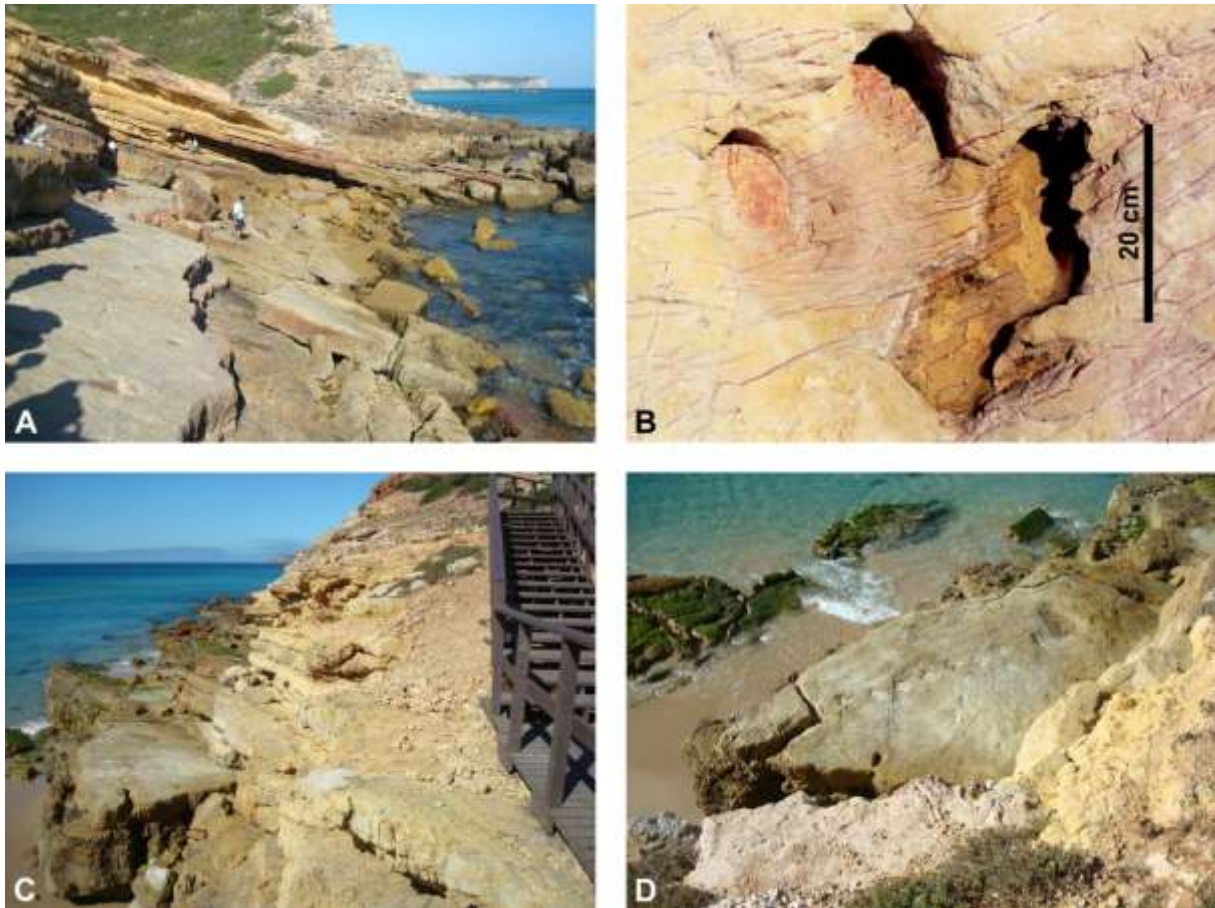


Figure 2: Dinosaur tracksites located near Vila do Bispo (southwest Algarve, Portugal): A) General view of the Santa tracksite; B) Well-preserved *Iguanodontipus* footprint at Santa tracksite; C) Wooden staircase that allows the access to the west area of the Salema beach near the dinosaur tracksite; D) Iguanodontian trackway at Salema tracksite with tridactyl footprints lined up suggesting a bipedal locomotion.

Recent research activity on the Mesozoic Algarve Basin yielded new data on both dinosaur palaeoecology and palaeobiogeography of the Iberian Peninsula and, therefore, it is crucial to perform science outreach actions. This need is justified not only by its inherent scientific relevance, as seen above, but also to promote the preservation of these particular and other palaeontological sites and last, but not least, to engage the society on the produced knowledge of the geological and palaeontological heritage in the Algarve region. The tourism and local economy would be improved if these geosites were properly publicized and briefly explained. In the last 13 years both the “Museu Nacional de História Natural e da Ciência” and the “Centro Ciência Viva de Lagos” have promoted various and distinct science education activities in these tracksites. As a result, it is essential to complement the scientific information through printed and other platforms (web pages, mobile applications and others). As an example, at Salema beach there is a car parking at the top of the west cliff and a wooden staircase leading to the beach near the dinosaur tracksite (Fig. 2C). The use of this infrastructure for touristic and cultural purposes is already now a great opportunity to promote this natural heritage.

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