

ICHOLOGICAL EVIDENCE FOR GIANT ORNITHOPOD DINOSAURS IN THE LATE JURASSIC LOURINHÃ FORMATION, PORTUGAL

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The Late Jurassic Lourinhã Formation contains a diverse dinosaur fauna comprising theropods, sauropods, stegosaurs, ankylosaurs and several genera of ornithopods. The sedimentology in the area favours preservation of footprints, and footprints from most of the dinosaurs represented by skeletal remains are present in the area. During fieldwork in the summer of 2003 a new, large, tridactyl footprint was found at the beach of Vale Frades, approximately 6 km north of Lourinhã, Portugal. The footprint was found together with a stegosaur footprint on a clay bed exposed within the tidal zone. The footprints were preserved as sandstone casts standing on a pedestal of clay. This unusual type of preservation is the result of the footprints having first been emplaced in clay, and then filled with sand. During the present day erosion from the sea, the harder sandstone cast of the footprints protects the subjacent clay layers from erosion. Owing to the immediate danger of erosion of, the footprint was collected and is now on display at Museu da Lourinhã (ML 1000). The footprint is 70 cm long and 69 cm wide, the toes are short and broad, with indications of short blunt claws. The divarication angle between the outer digits is close to 90 degrees. The dimensions and general morphology of the footprint identifies it as deriving from an ornithopod dinosaur with an estimated hip height of 4.13 metres. Although very large ornithopods are known from the Cretaceous, the largest known Jurassic ornithopod is *Camptosaurus* from USA, and the largest known from Portugal is the camptosaurid *Draconyx loureiroi*. Neither of these reached the body size suggested by the new footprint. So far the footprint described herein is the only evidence for a Jurassic ornithopod of that size.