



3rd Palaeontological Virtual Congress

Book of Abstracts

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Book of Abstracts



DINOTURBATION IN THE EXU FORMATION (CENOMANIAN, UPPER CRETACEOUS) FROM THE ARARIPE BASIN, BRAZIL

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Dinoturbation, Exu Formation, dinosaur tracks, Araripe Basin

Fossil footprints are generally recognized by morphological features from the autopodium registered on the unconsolidated substrate; therefore, they can also be understood as biogenic primary deformation structures. These structures are produced by foot pressure on a depositional surface, and transmitted downward inside a bed or a bedset. In some cases they are difficult to recognize, as they can be misinterpreted as load or liquefaction inorganic features related to sediment compaction, usually triggered by earthquakes and not to trampling by terrestrial vertebrates. In the Araripe Basin (Northeastern Brazil) many dinosaur footprints and tracks are observed in outcrops, mainly in the Lower Cretaceous Rio da Batateira and Santana formations (Crato Member in the latter) of Aptian age. They are often observed as load casts produced by dinosaur trampling, allowing evaluation of substrate consistency besides the potential trackmaker identification. We present here the first record of footprints in the overlying Exu Formation (Cenomanian), a succession of fine-grained sandstones interbedded with siltstones and occasionally mudstones, sedimented in channel bars of ephemeral streams and floodplains characterized by an arid climate. Footprints, 20 cm long and 30 cm wide, are evident on a vertical cross-section of a sandstone bed as concave-up deformations of the lamina-set. Digit impressions or other morphological features of the footprints are not recognized. The characterization of the dinosaur footprints enhances the understanding of the genetic interpretation of deformational structures and paleoenvironmental scenarios of the Late Cretaceous from Northeastern Brazil.