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Bird-like tracks from the imilchil formation (Middle Jurassic, Bajocian-Bathonian) of the central high atlas, Morocco, in comparison with similar mesozoic tridactylous ichnotaxa

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Abstract

© 2017, Mucchi Editori s.r.l. All rights reserved. Small bird-like tracks have recently been discovered at three outcrops of the Imilchil Formation (Middle Jurassic, Bajocian-Bathonian) in the Central High Atlas of Morocco. The track-bearing strata are part of a marine-continental transitional succession, the studied surfaces being sandy marls and limestones of a brackish depositional environment. The footprints strongly resemble the ichnogenus *Trisauropodiscus* Ellenberger, 1970, from the Lower Elliot Formation (latest Triassic) of Lesotho, southern Africa and are assigned to *Trisauropodiscus* sp. These are functionally tridactyl, widely divaricated pes tracks with digit III being longest and a trace of the reverted digit I (hallux) being occasionally imprinted. In contrast to some former studies suggesting *Trisauropodiscus* as a junior synonym and extramorphological variation of the ornithischian ichnogenus *Anomoepus*, this ichnotaxon is considered here as a distinctive morphotype among similar theropod tracks found in Jurassic-Cretaceous ichnoassemblages. An amended diagnosis is proposed focusing on the features that are here discussed and considered as key characters of this ichnotaxon. An avian interpretation of the trackmaker is problematical, especially against the background of the stratigraphic range of *Trisauropodiscus* back to the Late Triassic. Presently, theropods with very bird-like feet are the more likely producers. Future analyses and comparison of *Trisauropodiscus* with pes skeletons of avian and non-avian theropods might enlighten this.

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Keywords

Bird-like tracks, *Carmelopodus*, Middle Jurassic, Morocco, Ornithomimipodidae, *Trisauropodiscus*

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