

Ichnos:an International Journal of Plant and Animal 2014 vol.21 N4, pages 223-233

First Occurrence of Tetrapod Footprints from Westphalian Strata of the Sidi Kassem Basin, Central Morocco

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Abstract

© 2014, Copyright © Taylor & Francis Group, LLC. The Sidi Kassem Basin is the only limnic basin of Westphalian age in Morocco. It is built up of 1,250 m of alluvio-fluvial to lacustrine deposits that have so far yielded plant fossils and invertebrate remains only. Recent exploration for fossil tetrapod footprints in floodplain-deposits of the basin revealed a moderately diverse vertebrate ichnofauna composed of tracks assigned to cf. *Batrachichnus* Woodworth, 1900; cf. *Hylopus* Dawson, 1882; *Dimetropus* Romer and Price, 1940; and *Notalacerta* Butts, 1891. The tracks can be referred to temnospondyl, anamniote reptiliomorph, non-therapsid synapsid (pelycosaur), and captorhinomorph trackmakers. The described ichnoassemblage is important in at least three aspects: (1) It suggests an Early to mid-Pennsylvanian age for the footprint-bearing strata of the study area. (2) It is the oldest association of tetrapod footprints from Africa. (3) It is the first evidence of the relatively rare ichnogenera cf. *Hylopus* and *Notalacerta* outside of North America and Europe. Judged from the variety of tetrapod tracks and previously collected floral remains, the Sidi Kassem Basin must have represented a well-established continental ecosystem during Pennsylvanian time. Further exploration for trace and body fossils of Palaeozoic vertebrates in this basin may be important for the reconstruction of early tetrapod evolution.

<http://dx.doi.org/10.1080/10420940.2014.955096>

Keywords

Biostratigraphy, Early tetrapods, Late Carboniferous, NW Africa, Palaeoecology, Vertebrate ichnology