ACTA PALAEONTOLOGICA POLONICA

Toward the origin of amniotes: Diadectomorph and synapsid footprints from the early Late Carboniferous of Germany

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Acta Palaeontologica Polonica 55 (1), 2010: 57-72 doi: http://dx.doi.org/10.4202/app.2009.0021

Ichnotaxonomic revision of two extended sequences of large tetrapod footprints from the Westphalian A Bochum Formation of western Germany suggests assignment of the specimens to the well–known Permo–Carboniferous ichnogenera *Ichniotherium* and *Dimetropus*. Trackway parameters and imprint morphology strongly support basal diadectomorphs and "pelycosaurian"–grade synapsid reptiles, respectively, as the most likely trackmakers. The ichnofossils thereby extend the first appearance of these two important groups of basal tetrapods by about 5–10 million years, to the early Late Carboniferous, which is in accordance with the minimum age for the evolutionary origin of the clades following widely accepted phylogenetic analyses. These trackways provide not only direct evidence bearing on activity and behaviour of large terrestrial tetrapods close to the origin of amniotes, but also serve as a valuable benchmark for the assessment of controversially interpreted vertebrate tracks from other localities of similar age.

Key words: *Ichniotherium, Dimetropus*, Cotylosauria, tetrapod tracks, Westphalian, Germany.

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