The Late Sinemurian ichnofossils from Mampoboleng (Upper Moyeni), Lesotho

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Abstract:

The Mampoboleng ichnosite (Upper Moyeni, SW Lesotho) is a newly documented vertebrate track-bearing surface in the highly-fossiliferous upper Elliot Formation, ~35 m below the conformably overlying Pliensbachian Clarens Formation. The ~60 tridactyl tracks and trackways are preserved among ripple marks on top of a 1.5 m thick, fine- to medium-grained, upward-fining sandstone unit. The tracks range from 17.5 to 48 cm in length and preserve digital pad impressions, claw marks and expulsion rims. Their morphometric parameters are consistent with *Eubrontes*. Five tracks with pes length <25 cm can be classified as either *Grallator* or *Anchisauripus*, though the latter is considered a synonym of *Eubrontes* by some authors (Milner et al. 2006). However, tracks with lengths of up to ~48 cm are comparable in overall shape, size and L/W ratios with *Megalosauripus* (Lockley et al. 1996), which previously has not been reported from southern Africa. In addition to these theropod tracks, an isolated, semi-horizontal burrow cast (diameter: ~23 cm; height: 10 cm) with a bilobate cross-sectional shape and chevron scratch marks is located within a silty mudstone, ~13 m below the track-bearing palaeosurface. This burrow cast is the second one reported from the upper Elliot Formation (Bordy et al. 2017), and can be assigned to *Reniformichnus* (Krummeck & Bordy 2018). Based on sedimentological and ichnological evidence, the Late Sinemurian ichnofossils at Mampoboleng were generated in a palaeolandscape with small rivers and shallow lakes by a variety of biped dinosaurs (theropods) and burrowing vertebrates, potentially mammaliaforms.

Keywords: tridactyl, upper Elliot Formation, *Megalosauripus*, Lower Jurassic, vertebrate burrow cast

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