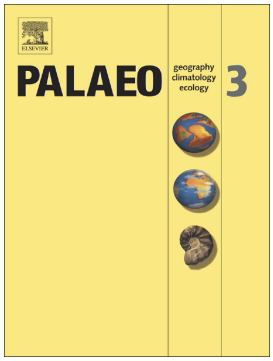

First Lower Jurassic vertebrate burrow from southern Africa (upper Elliot Formation, Karoo Basin, South Africa)

EM Bordy, L Sciscio, F Abdala, BW McPhee, JN Choiniere

PII: S0031-0182(16)30891-4
DOI: doi: 10.1016/j.palaeo.2016.12.024
Reference: PALAEO 8112

To appear in: *Palaeogeography, Palaeoclimatology, Palaeoecology*

Received date: 18 June 2016
Revised date: 15 December 2016
Accepted date: 18 December 2016

Please cite this article as: EM Bordy, L Sciscio, F Abdala, BW McPhee, JN Choiniere , First Lower Jurassic vertebrate burrow from southern Africa (upper Elliot Formation, Karoo Basin, South Africa). The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Palaeo(2016), doi: 10.1016/j.palaeo.2016.12.024

First Lower Jurassic vertebrate burrow from southern Africa (upper Elliot Formation, Karoo Basin, South Africa)

Bordy, EM[1]; Sciscio, L[1]; Abdala, F[2,3]; McPhee, BW[2,3]; Choiniere, JN[2,3]

[1] Department of Geological Sciences, University of Cape Town, 7701, South Africa

[2] Evolutionary Studies Institute, University of the Witwatersrand, 2050, South Africa

[3]School of Geosciences, University of the Witwatersrand, 2050, South Africa

Emails: Emese.Bordy@uct.ac.za, L.Sciscio@gmail.com; Nestor.Abdala@wits.ac.za, Blaire.McPhee@wits.ac.za, Jonah.Choiniere@wits.ac.za

ABSTRACT

Vertebrate burrows are common ichnofossils in the Permo-Triassic of the main Karoo Basin in South Africa. They are generally attributable to one of several lineages of therapsid, including the derived clade known as cynodonts. Despite the presence of cynodont species in the Upper Triassic and Lower Jurassic of the Karoo Supergroup, vertebrate burrows have never been reported from this part of the succession. Recent fieldwork recovered a semi-elliptical burrow cast in the Lower Jurassic upper Elliot Formation (Stormberg Group) on the farm Edelweiss 698 (Free State). The horizontal and vertical diameters of the burrow cast are ~18 and ~7 cm, respectively. This semi-horizontal, straight to slightly sinuous tunnel is ~50 cm long with a ramp angle of <5°. The tunnel lacks branching, terminal chambers, and associated fossil bones. The burrow cast consists of medium, massive sandstone and very rare, faint, horizontal to slightly inclined lamination. The burrow cast is hosted in fine-grained, palaeo-pedogenically altered, crevasse splay sandstone that is 10-20 cm thick and is under- and overlain by a massive, red, bioturbated floodplain mudstone unit with large-scale