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A COMPARISON OF LATE JURASSIC NARROW-GAUGE SAUROPOD TRACKWAYS FROM THE CENTRAL HIGH ATLAS (MOROCCO) AND THE JURA MOUNTAINS (NW SWITZERLAND)

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Sauropod trackways are generally classified according to their trackway width as narrow- and widegauge, and these categories are thought to have been left by basal (Diplodocidae) and more derived (Brachiosauridae and titanosauriform) sauropod dinosaurs, respectively. Nonetheless, a quantification of trackway gauge was only recently proposed by Romano et al. (2007) introducing the pes trackway ratio and by Marty (2008) introducing a ratio between the width of the pes angulation pattern and the corresponding pes track length. Narrow-gauge sauropod trackways from Morocco assigned to the ichnogenus Breviparopus Dutuit & Ouazzou 1980 do not show - contra all published outline drawings (e.g., Dutuit & Ouazzou, 1980; Ishigaki, 1989) - any evident toe or pollex impressions (Meyer & Monbaron, 2002; Belvedere, 2008). Depending on their preservational state, those from Switzerland may exhibit toe and/or claw impressions, and they are assigned to Parabrontopodus Lockley, Farlow & Meyer 1994 (e.g., Marty et al., 2003). Here, we compare Late Jurassic narrow-gauge trackways of different size classes from continental siliciclastic deposits of the central High Atlas and from carbonate-platform tidalflat deposits of the Jura Mountains with respect to track preservation, track morphology, and trackway configuration (notably gauge). In doing so, we will highlight the influence of substrate properties, trackmaker behaviour (e.g., locomotion speed), and ontogenetic stage of the trackmakers on track morphology and trackway configuration. Finally, we will discuss the validity of the two ichnogenera, and - because Breviparopus may be restricted to the Gondwanan realm - their use in palaeo(bio)geographical reconstructions around the Tethys during the Middle to Late Jurassic.

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