

**A NEW DINOSAUR ICHNOSITE FROM THE EARLY CRETACEOUS SOUSA  
FORMATION, NORTHEASTERN BRAZIL**

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**Background.** The Sousa Formation contains the richest dinosaur ichnofauna from the Early Cretaceous Rio do Peixe Basin, Northeastern Brazil. Occurs eventually ornithopod tracks, which are found also in the Antenor Navarro and Piranhas Formations. Together with one trackway from the Botucatu Formation, some isolated tracks from the Cenomanian São Luís Basin, and some trackways from the Early Cretaceous Corda Formation, at the moment, these occurrences indicates the only definitive presence of ornithopods in the Mesozoic of Brazil.

**Material & Methods.** In 2015, a fieldwork was held to investigate potential dinosaur tracks in new ichnosites from the Sousa Formation. All the tracks were photographed individually using a digital camera Nikon Coolpix P520. The paleoichnological terminology and morphometric parameters follows Thulborn (1990), Marty (2008) and Castanera et al. (2013). A plastic sheet was used for drawing the tracks. Directions and measurements of each dinosaur track, as well as the entire outcrop, were taken *in situ*. **Results.** The Pereiros ichnosite represents a new occurrence of dinosaur tracks from the Sousa Formation. The dinosaur ichnofauna comprises a medium-sized, bipedal ornithopod trackway, a single ornithopod track and one pair of theropod tracks. **Discussion.** The ornithopod trackway is characterized by plantigrade, tridactyl, mesaxonic, subsymmetrical and wider than long pes tracks, with large and rounded heels, and short and wide digit impressions. It is referred to the ichnofamily Iguanodontipodidae, previously reported for the Sousa beds. Two medium-sized theropod tracks assigned to *Irenosauripus* also occurs, representing an expansion of the paleobiogeographical record for this unusual ichnotaxa. The new record of *Irenosauripus* from the Sousa Formation shows an unusual pattern with morphological similarities to theropods tracks from the Lower Cretaceous Feitianshan Formation of Sichuan, China (Xing et al., 2013). According to these authors, the Chinese theropod tracks exhibit extramorphological, substrate-based features rather than reflecting the true morphology of the track maker pedal. Moreover, each digit has a sharp claw mark, but there are no discernible pad impressions. *Irenosauripus* was also observed in the “middle Cretaceous” Wotoushan Formation of China. According to Xing et al. (2011), the Chinese tracks preserve partial metatarsal pads that are not distinct from their respective metatarsophalangeal regions. Xing et al. (2011) noted the unusual elongate digit II claw impression, indicating that digit II of the trackmaker possessed a long claw, longer than on any of the other digits. **Conclusions.** The outcrop studied represents the nineteenth dinosaur tracksite in the Sousa Formation and gives further evidence of the rather rare ornithopod

dinosaurs in the Cretaceous of Brazil. **Acknowledgements.** Thanks to Nicholas Gardner (United States) for the discussion about the new dinosaur tracks. MECL is supported by a grant from CNPq-FUNCAP (DCR-0024-01186.01.00/14).

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