

RE-EVALUATION OF THE HOLOTYPE OF *DRACONYX LOUREIROI* (DINOSAURIA, ORNITHOPODA) WITH REPORT OF NEW HOLOTYPE MATERIALFilippo Maria ROTATORI^{1,2*}, Miguel MORENO-AZANZA^{1,2,3} & Octávio MATEUS^{1,2}¹ Department of Earth Sciences, GEOBIOTEC., NOVA School of Science and Technology, Campus de Caparica, Caparica, Portugal.² Museu de Lourinhã, Lourinhã, Portugal.³ Grupo Aragosaurus-IUCA, Facultad de Ciencias, Universidad de Zaragoza, Zaragoza, Spain.* Presenting author; e-mail: filippo.rotatori.93@gmail.com

The Upper Jurassic Lourinhã Formation is a siliciclastic continental unit, which yielded a diverse vertebrate fauna, dated from upper-most Kimmeridgian to lower-most Tithonian. Among dinosaurs, extremely diverse and abundant were saurischians, while ornithischians are extremely rare. In 1991, Museu da Lourinhã excavated a specimen of a medium-sized iguanodontian, the holotype of *Draconyx loureiroi* (ML 357). However, beside its original description, specialists in many systematic and taxonomic revision of the clade Iguanodontia have neglected this specimen. Moreover, the original discoverer of the holotype, Mr. Carlos Anunciação, provided us with new material belonging to the holotype specimen and collected during the original dig in 1991, including partially articulated phalanges and carpal bones. This new material, new lab preparation, and new CT-scanning data, allowed us to re-appraise ML 357 and perform phylogenetic and morphometric analyses. We confirmed that *Draconyx loureiroi* is a valid taxon, providing a revised diagnosis for this species. It can be distinguished by other iguanodontians in possessing the following unique combination of characters: an unfused and unpacked carpus, cnemial crest of the tibia cranio-laterally deflected, fibular condyle caudo-laterally deflected, presence of a vestigial splinter-like metatarsal-I. Phylogenetic analyses were carried out employing both Maximum Parsimony and Bayesian approaches. Both analyses found *D. loureiroi* nested at the base of Styrcosterna. Further, we estimated with both Maximum Parsimony and Bayesian inference evolutionary rates across the consensus topologies obtained and found accelerated rates of evolution across the Jurassic-Cretaceous transition. The linear morphometric analysis indicated that *D. loureiroi* is a specimen of approximately 3 to 4 meters, suggesting that the base of Styrcosterna is characterized by medium-sized species, and only later in their evolution styrcosternans attained larger body sizes. This increase in evolutionary rates is contemporary to a global geological crisis and the subsequent remodelling of terrestrial ecosystems. Further research is needed to elucidate if this crisis sped-up the evolution of this clade of dinosaurs.



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