

Revisiting the choristodere and stem-lepidosaur specimens of the Guimarota Beds (Kimmeridgian, Portugal): taxonomic implications

Alexandre R.D. Guillaume, Eduardo Puértolas-Pascual, and Miguel Moreno-Azanza

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The Guimarota beds (Kimmeridgian, Portugal) constitute one of the richest microvertebrate assemblages for the Upper Jurassic, which include a diverse fauna of small reptiles. Among others, was described a new species of a small choristodere, “*Cteniogenys reedi*”. The genus, also known from the Morrison Formation (Upper Jurassic, USA) and the Kirtlington Mammal Bed (Middle Jurassic, UK), constitutes one of the oldest and most basal forms of this aquatic reptile lineage considered to be ecologically similar to crocodylomorphs. However, later works considered this species to be a junior synonym, and challenged the assignment of some of this material, ascribing them to the aquatic stem-lepidosaur *Marmoretta*. Here, we provided a revision of the published material from the Guimarota beds assigned to *Cteniogenys*, together with unreported and mislabelled specimens. We confirmed that the Portuguese specimens are probably non-conspecific with the taxa described in the Upper Jurassic of North America and in the Middle Jurassic of England. Unfortunately, the lack of diagnostic features from the only valid species prevented to confirm the original description as a distinct new species. Therefore, we only referred it to *Cteniogenys* aff. *C. antiquus*. We further supported the presence of *Marmoretta* in the Upper Jurassic of Portugal, and erected a new species, *Marmoretta drescherae*. Those occurrences support original palaeoenvironmental interpretations of the Guimarota beds as a wetland, probably close to mangrove-like, with important freshwater inputs. The presence of *Cteniogenys* in Portugal further supports faunal interchanges between North America, Europe, and potentially Northwestern Africa during the Jurassic/Cretaceous transition, if later occurrences are to be confirmed. The presence of *Marmoretta* also extend the temporal range of this relict reptile lineage at a time where squamates were radiating. However, its absence in other contemporary Jurassic localities, notably in the Lourinhã and Morrison formations, could hint towards ecological differences between those assemblages.

Key words: Reptilia, Diapsida, palaeobiogeography, systematic, Lusitanian Basin.

Alexandre R. D. Guillaume [alexandre.guillaume.763@gmail.com]
; ORCID: <https://orcid.org/0000-0002-9005-9916>], GEOBIOTEC,
Department of Earth Sciences, NOVA School of Science and Technology,

Universidade Nova de Lisboa, Campus de Caparica, P-2829 516 Caparica, Portugal. Eduardo Puértolas-Pascual [eduardo.puertolas@gmail.com]; ORCID: <https://orcid.org/0000-0003-0759-7105>] and Miguel Moreno-Azanza [mmazanza@gmail.com]; ORCID: <https://orcid.org/0000-0002-7210-1033>], GEOBIOTEC, Department of Earth Sciences, NOVA School of Science and Technology, Universidade Nova de Lisboa, Campus de Caparica, P-2829 516 Caparica, Portugal; Aragosaurus: Recursos Geológicos y Paleoambientes – IUCA. Departamento de Ciencias de la Tierra, Universidad de Zaragoza, Calle Pedro Cerbuna 12, 50009, Spain.

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