Dataset

3D model related to the publication: New turtles from the Late Cretaceous of Monte Alto-SP, Brazil, including cranial osteology, neuroanatomy and phylogenetic position of a new taxon

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Abstract
The present 3D Dataset contains the 3D model analyzed in the following publication: Ferreira, G.S., F.V. Iori, G. Hermanson, and M.C. Langer 2018. New turtles from the Late Cretaceous of Monte Alto-SP, Brazil, including cranial osteology, neuroanatomy and phylogenetic position of a new taxon. PalZ. https://doi.org/10.1007/s12542-017-0397-x

Keywords: carotid circulation, microcomputed tomography, Neuroanatomy, Pleurodira, Podocnemidoidae

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Inventory Nr	Taxon	Description
MPMA04-0008/89	*Yuraramirim montealtensis*	Skull lacking both premaxillae and squamosals, and parts of other bones.

Table 1. Associated model. MPMA: Museu de Paleontologia de Monte Alto, SP, Brazil.

INTRODUCTION

This project contains 3D model and a phylogenetic matrix related to the article "New turtles from the Late Cretaceous of Monte Alto-SP, Brazil, including cranial osteology, neuroanatomy and phylogenetic position of a new taxon". The sample of 3D models refers to the brain, endosseous labyrinth, cranial nerves and vessels endocasts of a new side-necked turtle, *Yuraramirim montealtensis*, obtained using micro CT scan images (see Fig. 1 and table 1). Regarding fossil turtles, there are only virtual reconstructions for pan-cryptodirans or taxa outside the crown-group in the literature (e.g. Paulina-Carabajal et al. 2013, 2017) and, as such, this represents the first soft tissue digital reconstruction for an extinct pleurodire. Additionally, the nexus file included contains the phylogenetic analysis data presented in the original article that includes the new taxon (see "Methods").

METHODS

The 3D surfaces were extracted semi-automatically within Materialise Mimics (18.0) using the segmentation threshold selection tool. The 3D surface models are provided in .ply format, and can therefore be opened with a wide range of freeware. The nexus file included contains a phylogenetic-data matrix of 39 taxa and 95 characters compiled from literature (e.g. Gaffney et al. 2011; Cadena 2015; Ferreira et al. 2015; further literature may be found within the original article) and was analyzed on TNT (Goloboff et al. 2008) using parsimony as the search criterion.

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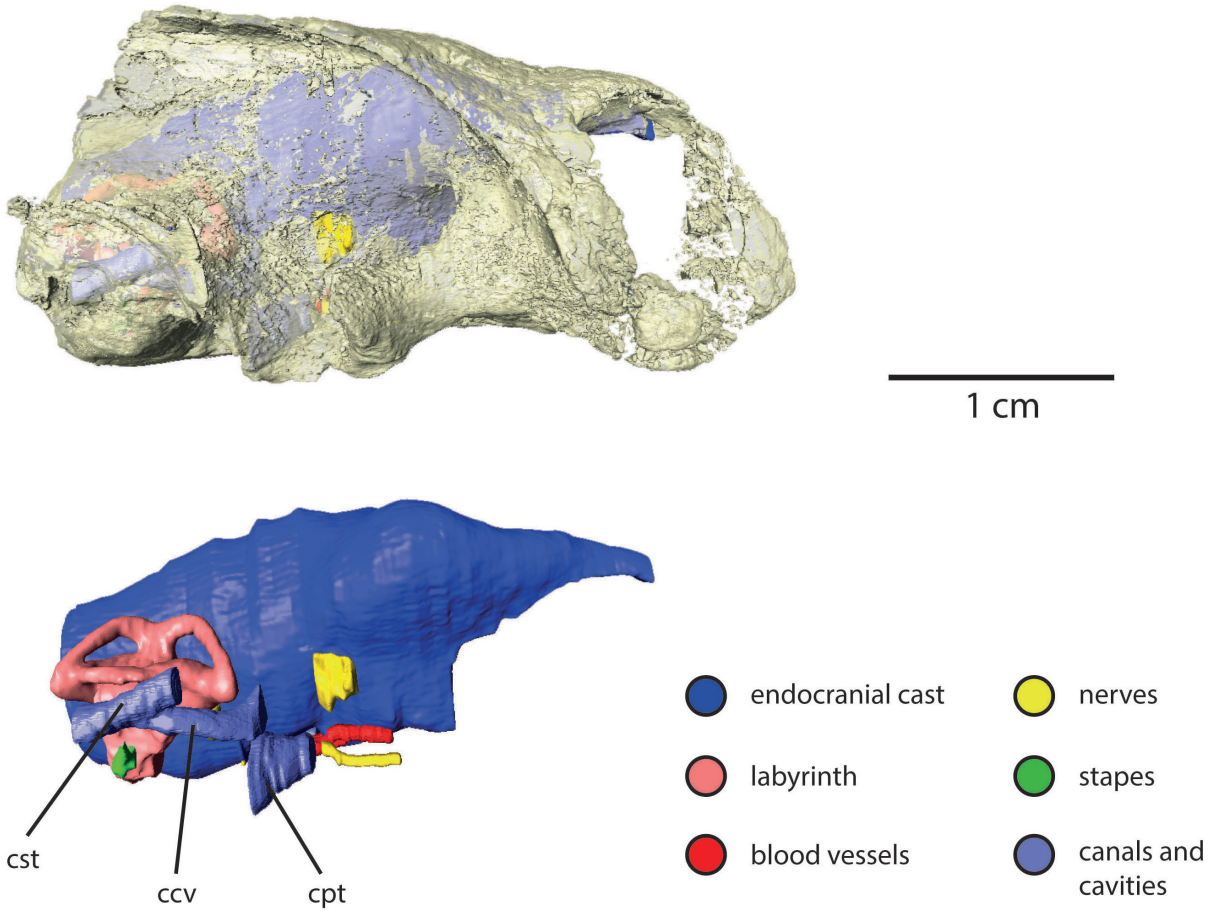

Figure 1. Virtual endocasts reconstructed for *Yuraramirim montealtensis*, a new side-necked turtle. Abbreviations: ccv, canalis cavernosus; cpt, cavum pterygoidei; cst, canalis stapedio-temporalis.

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Ferreira, G.S., F.V. Iori, G. Hermanson, and M.C. Langer 2018. New turtles from the Late Cretaceous of Monte Alto-SP, Brazil, including cranial osteology, neuroanatomy and phylogenetic position of a new taxon. PalZ. https://doi.org/10.1007/s12542-017-0397-x

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