3D model related to the publication: Small within the largest: Brain size and anatomy of the extinct Neoepiblema acreensis, a giant rodent from the Neotropics

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Abstract

The present 3D Dataset contains the 3D model of the brain endocast of *Neoepiblema acreensis* analyzed in "Small within the largest: Brain size and anatomy of the extinct *Neoepiblema acreensis*, a giant rodent from the Neotropics". The 3D model was generated using CT-Scanning and techniques of virtual reconstruction.

Keywords: brain endocast., Caviomorpha, Endocranium, palaeobiology

Inv. nr	Taxon	Description
UFAC4515	*Neoepiblema acreensis*	Brain endocast

Table 1. Involved specimen. Collection: UFAC, paleontological collection of the Universidade Federal do Acre, Rio Branco, Brazil.

INTRODUCTION

The rodent *Neoepiblema acreensis* (Caviomorpha: Chinchilloidea) is member of a lineage that reached gigantic dimensions during the Late Miocene of South America — the Neoepiblemidae. UFAC 4515, the best-preserved skull of a neoepiblemid, was collected in Upper Miocene beds of the Brazilian Amazonia (Kerber et al. 2019). The evolution of the brain anatomy and size of this rodent can be now studied with non-invasive imaging techniques. Hence, the skull as scanned using CT-scanning and its endocranial anatomy was studied. This is contribution contains the 3D model of the virtual brain endocast *N. acreensis* (see Fig. 1 and table 1).

METHODS

The skull UFAC 4515 (Universidade Federal do Acre) was scanned in a medical CT-Sscanner in a private medical clinic in Porto Alegre, Rio Grande do Sul, southern Brazil, using 100 kV and 223.4 mAs. The analysis generated 461 slices with a thickness of 0.625 mm and pixel size of 0.488 mm. The slices were imported in Avizo, the internal cavities were manually segmented, and 3D-models were generated (.stl format). The 3D surface model is provided in .stl format, and can therefore be opened with a wide range of freeware.

BIBLIOGRAPHY

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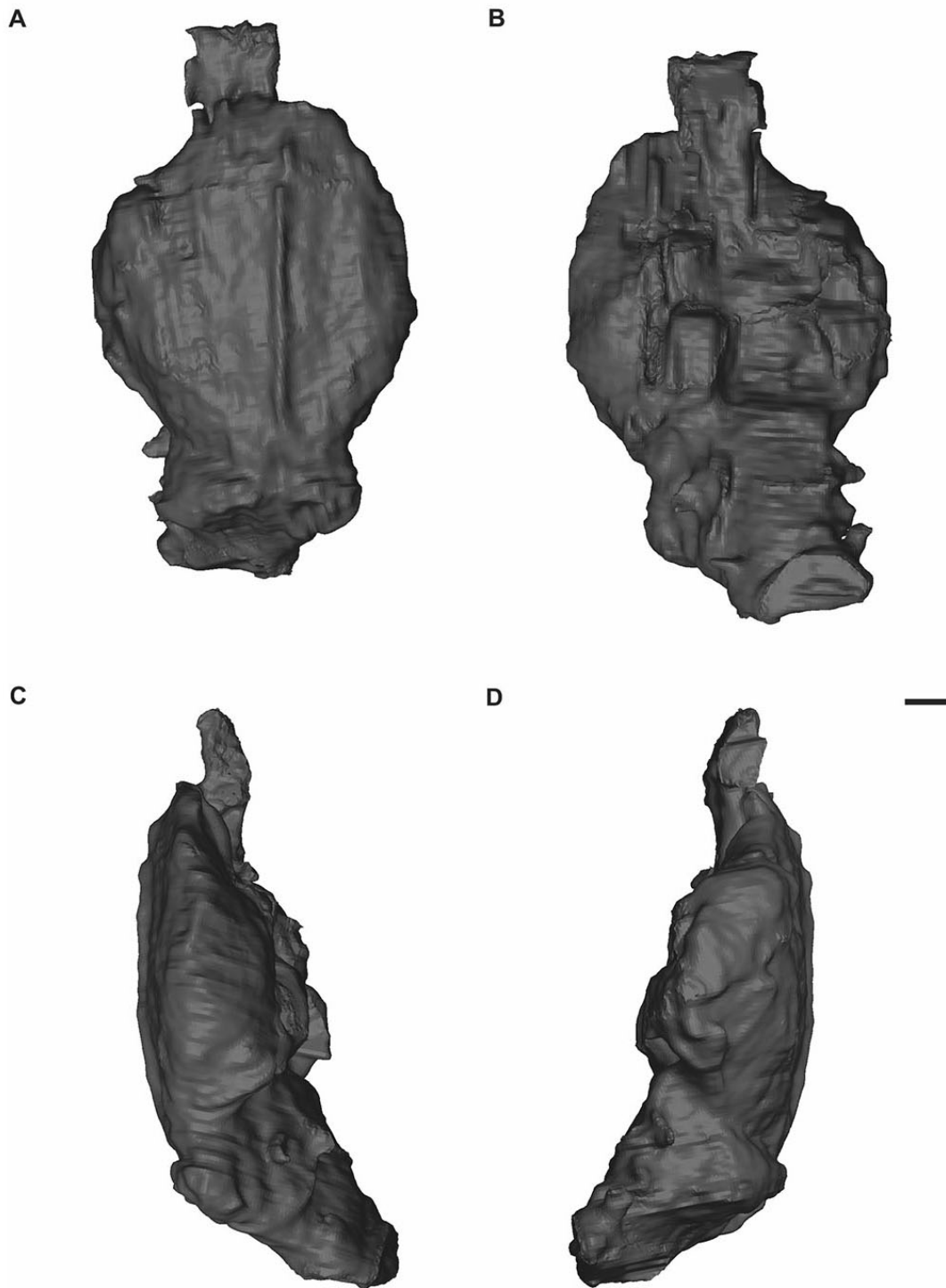
Figure 1. 3D model of the brain endocast of *Neoepiblema acreensis* (UFAC 4515) from the Upper Miocene of Brazil, in dorsal (A), ventral (B), right lateral (C), and left lateral (D) views. Scale = 10 mm.