

# 3D model related to the publication: *A Puma concolor* (Carnivora: Felidae) in the Middle-Late Holocene landscapes of the Brazilian Northeast (Bahia): submerged cave deposits and stable isotopes

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## Abstract

The present 3D Dataset contains the 3D model of a skull analyzed in “A *Puma concolor* (Carnivora: Felidae) in the Middle-Late Holocene landscapes of the Brazilian Northeast (Bahia): submerged cave deposits and stable isotopes”. The 3D model was generated by photogrammetry.

**Keywords:** Caatinga biome, Carnivora, mammal, Photogrammetry

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## INTRODUCTION

This dataset contains the surface model (see table 1 and Fig. 1) of a skull (MN 57461 – cranium and both dentaries) of a fossil *Puma concolor* (Mammalia, Carnivora) found inside the underwater deposits of the Impossível Cave (Bahia, Brazil). The Impossível-Ioiô Cave System is part of the well-known karstic region of Chapada Diamantina (Salles *et al.* 2014; Salles *et al.* 2020). This mid-Holocene specimen, together with other remains from Toca da Boa Vista and Toca dos Ossos (Lessa *et al.* 1998; both also from Bahia and inferred to be generically related to the Late Pleistocene / Holocene) are the only fossil records of the species known in Brazil. A multidisciplinary approach (including radiocarbon dating, stable isotope analyzes, species distribution modeling, and comparative morphometrics) guided our study of this specimen in an attempt to improve the knowledge of the evolutionary history of this mid-size felid species in South America.

## METHODS

The specimen is housed at the Setor de Mastozoologia of the Museu Nacional, Universidade Federal do Rio de Janeiro. The 3D model presented here was created via photogrammetry and is a combination of three independent models, skull (MN 57461/001) and both mandibles (right – MN 57461/004 and left – MN 57461/005). The photos were taken using a camera Nikon D3200. Each model was created using about 150 photos of different angles and the models were constructed using Agisoft Photoscan version 1.4. At last, these models were combined in Blender version 2.91. The 3D model surface is provided in .ply format, and can therefore be open with a wide range of freeware.

Inv nr.	Taxon	Description
MN 57461	<i>Puma concolor</i>	Cranium

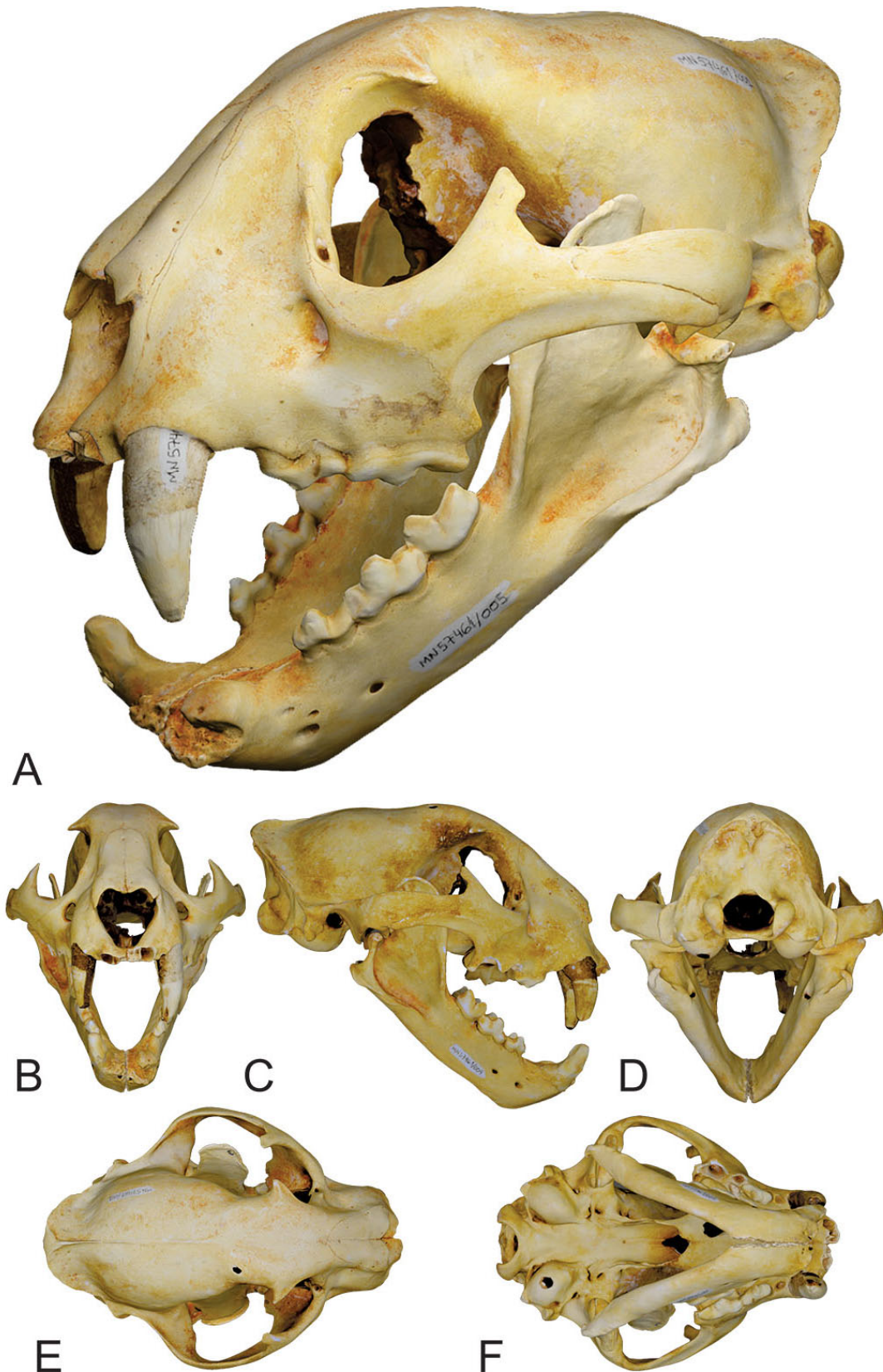
**Table 1.** Related model. Collection: Museu Nacional (MN) - Universidade Federal do Rio de Janeiro, Rio de Janeiro

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**Figure 1.** 3D model of the specimen (MN 57461) of *Puma concolor*: A – diagonal view, B – anterior view, C – lateral view, D – posterior view, E – dorsal view, F – ventral view.

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