Dataset

3D models related to the publication: New records of platyrrhine primates (Atelidae and Cebidae) from the Miocene of Western Amazonia, State of Acre, Brazil

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Abstract

This contribution contains the three-dimensional digital models of fossil remains of platyrrhine primates from the late Middle to early Late Miocene (Upper Solimões Formation) of the State of Acre, Brazil (Western Amazonia). These fossils were described, figured and discussed in the following publication: Marivaux et al. (2026), New records of platyrrhine primates (Atelidae and Cebidae) from the Miocene of Western Amazonia, State of Acre, Brazil. Journal of Mammalian Evolution https://doi.org/10.1007/s10914-026-09829-z

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INTRODUCTION

We provide here the three-dimensional (3D) digital models of primate fossil remains (Fig. 1; Table 1) that were unearthed in the State of Acre, Brazilian Amazonia, from detrital sediments of the Upper Solimões Formation (e.g., Cozzuol, 2006; Latrubesse et al., 2010; Kerber et al., 2017; Bissaro-Junior et al., 2019; Stutz et al., 2023). Among the fossil-bearing sites that have yielded these fossils, three are located along the Juruá River (*Ponto Rio Juruá* [PRJ]), which flows through the western part of the State of Acre. These primate-bearing localities, PRJ 09 (also known as *Cachoeira de São Salvador*), PRJ 25 (*Belford*) and PRJ 26 (*Ceará*), are situated on the Municipality of Marechal Thaumaturgo, upstream of the Juruá River (i.e., *Alto Rio Juruá*) (for more information see e.g., Negri et al., 2010; Ribeiro et al., 2013; Kerber et al., 2017; Lacerda et al., 2021; Hsiou et al., 2022; Stutz et al., 2023). Another primate-yielding locality was found on the embankment of the BR-364 highway, which crosses the State of Acre from north-west to south-east. This mammal-bearing locality, AC 65 (also called *Morro do Careca*), is situated at km 385, between the cities of Tarauacá and Feijó (for more information see e.g., Bocquentin and Melo, 2006; Kerber et al., 2017; Souza-Filho et al., 2019; Hsiou et al., 2022), on the Municipality of Feijó. The fossils comprise dental remains (four isolated teeth) and a fragment of a tarsal bone (talus). The presence of distinct occlusal patterns and the wide range of sizes of the teeth allowed for the clear distinction of four taxa (Marivaux et al., 2026). The best-preserved teeth are two upper molars, one of which has been identified as belonging to a new ateline taxon (*Parabrachyteles vesperus*; Fig. 1A) close to the living muriquis (*Brachyteles*; i.e., Atelinae Atelidae), and the other to a new cebine taxon (*Migmacebus juruaensis*; Fig. 1B), a morphological chimera of the living capuchin (*Sapajus* and *Cebus*) and squirrel monkeys (*Saimiri*) (i.e., Cebinae Cebidae). A moderately well-preserved upper premolar (Fig. 1C) indicates the presence of a possible medium-sized capuchin-like taxon (?Cebinae), while a fragmentary lower molar (lacking a part of the trigonid; Fig. 1D) indicates the presence of a tiny marmoset (i.e., Callitrichinae Cebidae), roughly similar in size to the pygmy marmoset (*Cebuella*). The fragmentary talus, severely damaged on its entire medial aspect (the head, neck and medial trochlear rim are lacking; Fig.1E-F), belonged to a medium-sized platyrrhine. Due to the poor state of preservation of this tarsal bone, it has not been possible to propose a precise family attribution (Marivaux et al., 2026). Although this primate fossil material is limited, each tooth represents a different species, besides being distinct from the previously known taxa from the Upper Solimões Formation (i.e., *Stirtonia*, *Solimoea*, and *Acrecebus*; see Kay and Frailey, 1993; Kay and Cozzuol, 2006). These findings thus more than double the known taxonomic diversity of Miocene primates in this region of Brazilian Amazonia (State of Acre) (see Marivaux et al., 2026).

METHODS

The fossil specimens of primates were scanned using a high energy µCT-scanning station SkyScan 1173. The resolution of the scans was 7.14 µm for the majority of the specimens, with one exception (UFAC-CS 076), which was scanned at a resolution of 5.64 µm. AVIZO 2020.2 (Visualization Sciences Group) software was used for visualization, segmentation and three-dimensional (3D) rendering. The scanned specimens were

Inv nr.	Taxon	Description
UFAC-CS 488	*Parabrachyteles vesperus*	Isolated right M1 or M2
UFAC-CS 487	*Migmacebus juruaensis*	Isolated right M1 or M2
UFAC-CS 076	? Cebinae indet.	Isolated right P3 or P4
UFAC-CS 428	Callitrichinae indet.	Isolated left m1 or m2
UFAC-CS 213	Platyrrhini indet.	Fragment of left talus

Table 1. List of models.

prepared within a "labelfield" module of AVIZO, using the segmentation threshold selection tool. The crown and roots of each fossil tooth, as well as the cortical bone surface of the fragmentary talus were virtually delimited by manual segmentation. The surface renderings of these 3D models are provided here in ".ply" format, and thus can be opened with a wide range of software programs (e.g., MorphoDig 1.6.7, an open-source 3D freeware (Lebrun, 2018; https://morphomuseum.com/Pages/morphodig).

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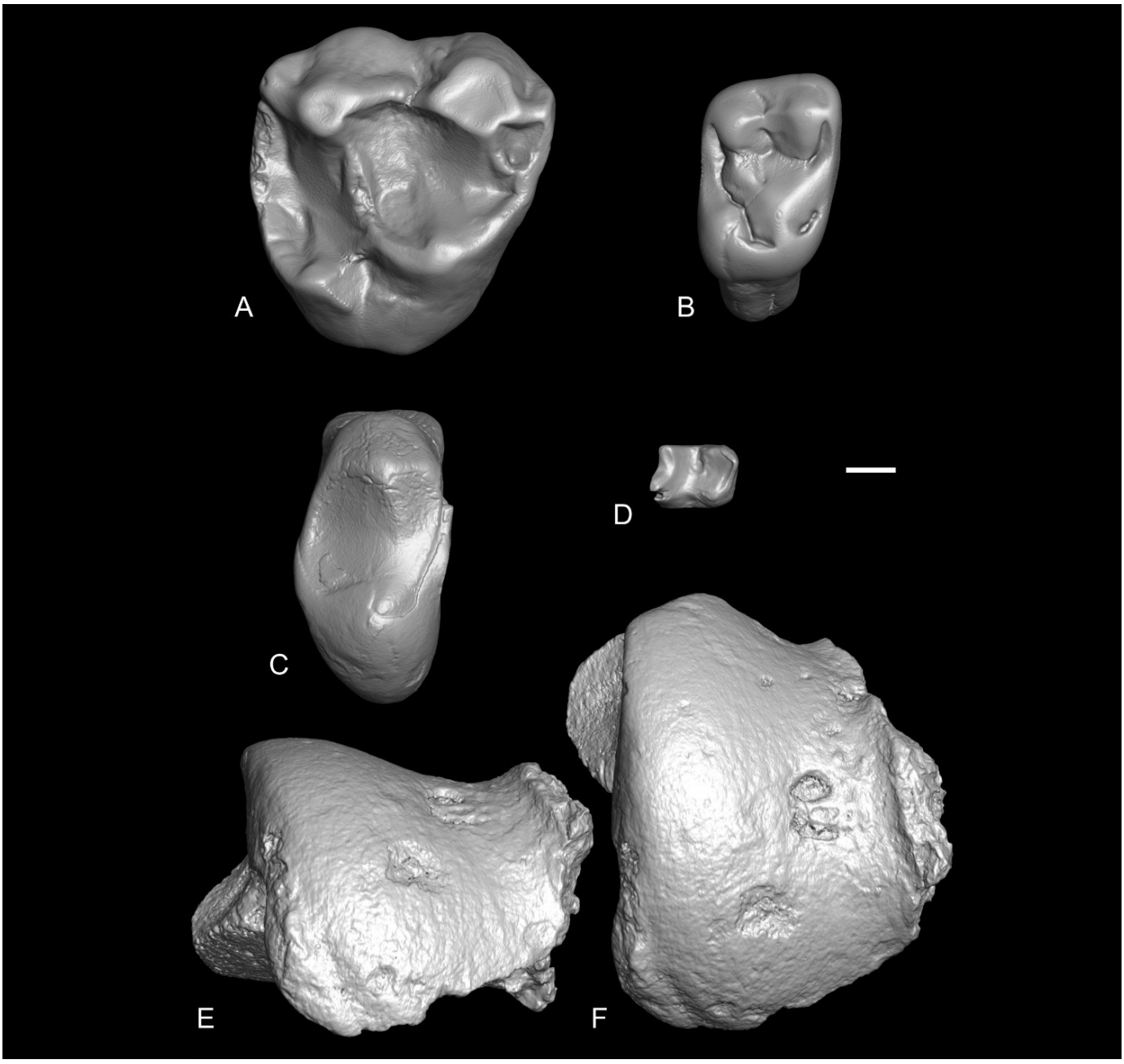

Figure 1. Dental and tarsal bone remains of Miocene platyrrhine primates from the Upper Solimões Formation, Acre Basin, State of Acre, Brazil. The teeth presented here (A-D) are in occlusal view. **A**, UFAC-CS 488, a right M1 or M2 of *Parabrachyteles vesperus* (Atelinae, Atelidae); **B**, UFAC-CS 487, a right M1 or M2 of *Migmacebus juruaensis* (Cebinae, Cebidae); **C**, UFAC-CS 076, a right P3 or P4 of a medium-sized ?Cebinae indet.; **D**, UFAC-CS 428, a fragment of left m1 or m2 lacking a part of the trigonid of a tiny indeterminate marmoset (Callitrichinae, Cebidae); **E-F**, UFAC-CS 213, fragment of left talus from a medium-sized platyrrhine primate in proximal (E) and dorsal (F) views. Images are renderings of 3D digital models of the fossil specimens, obtained by X-ray μCT surface reconstructions. Scale bar = 1 mm.

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