Dataset

3D models related to the publication: 3D Finite Element Analysis and Geometric Morphometrics of Sloths (Xenarthra, Folivora) Mandibles Show Insights on the Dietary Specializations of Fossil Taxa

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Abstract
The present 3D Dataset contains the 3D models analyzed in 3D Finite Element Analysis and Geometric Morphometrics of Sloths (Xenarthra, Folivora) Mandibles Show Insights on the Dietary Specializations of Fossil Taxa. Journal of South American Earth Sciences. https://doi.org/10.1016/j.jsames.2023.104445.

Keywords: Ground Sloths, Mandibles, Photogrammetry, Quaternary, South America

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INTRODUCTION

We present the surface models (Fig. 1; Table 1) of several specimens of Folivora (Mammalia, Xenarthra) used in Varela et al. (2023). The scanned specimens represent mandibles of adult individuals of representatives of one of the mayor clades of sloths, the Mylodontoidea (Delsuc et al. 2019; Varela et al. 2019), namely *Lestodon armatus*, *Glossotherium robustum*, *Mylodon darwinii*, *Scelidotherium leptocephalum*, and *Valgipes bucklandi*. The specimens also correspond the some of the most representative taxa of the Río de la Plata region during the Late Pleistocene (Varela and Fariña 2016; Varela et a. 2018). The models were used in Varela et al. (2023) to perform Finite Elements Analysis and Geometric Morphometrics to explore potential differences among taxa regarding their dietary specializations. The results supported the existence of adaptations to hard-food processing in some taxa and consequently the probable resource partitioning among members of the Mylodontoidea coexisting in the same region during the Late Pleistocene.

METHODS

The fossil specimens were scanned using photogrammetry with the software Agisoft Photoscan. The 3D surface models are provided in .stl format, which can be opened by an extensive list of free and open-source software.

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Inv nr.	Taxon	Description	Collection
CAV 379	*Mylodon darwinii*	Right hemi-mandible	SAUCE-P, Uruguay
MNHN-M 137,722	*Scelidotherium lepto-cephalum*	Mandible	MNHN, Montevideo, Uruguay
MNHN-M 914	*Glossotherium robustum*	Mandible	MNHN, Montevideo, Uruguay
MPAC 899	*Lestodon armatus*	Mandible	MPAC, Colonia, Uruguay
NHMD.Z.M.K 1/1845:3540	*Valgipes bucklandi*	Mandible	NHMD, Copen-hagen, Denmark

Table 1. Involved specimens. Collections: Statens Naturhistoriske Museum, Copenhagen, Denmark (NHMD); Museo Nacional de Historia Natural, Montevideo, Uruguay (MNHN-M); Museo Paleontológico Profesor Armando Calcaterra, Colonia, Uruguay (MPAC); Servicio Académico Universitario y Centro de Estudio Paleontológicos, Universidad de la República, Canelones, Uruguay (SAUCE-P).

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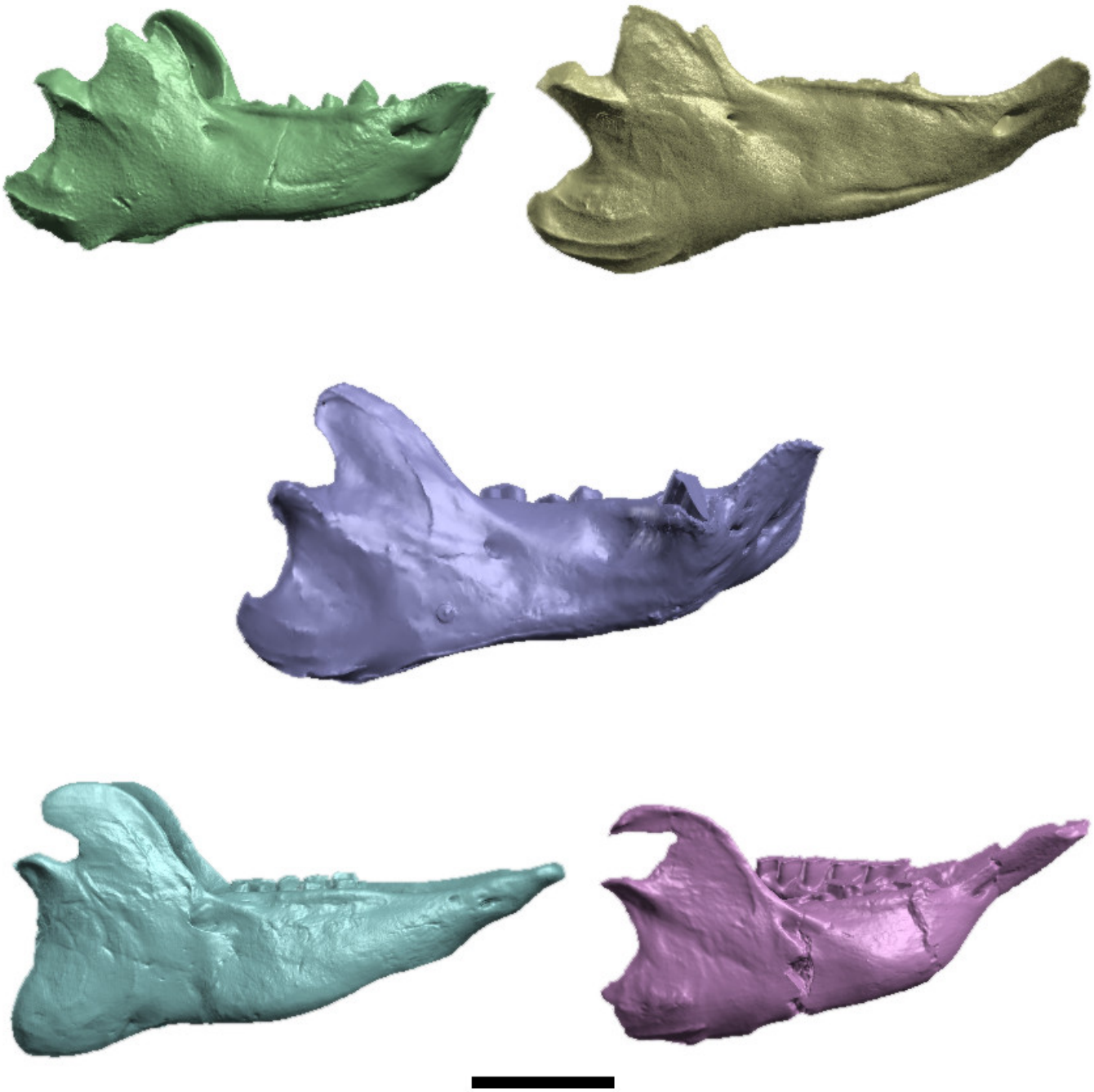

Figure 1. 3D surface models of: CAV 379 (*Mylodon darwinii*), MPAC 899 (*Lestodon* armatus), MNHN-M 914 (*Glossotherium* robustum), MNHN-M 137,722 (*Scelidotherium leptocephalum*), and NHMD.Z.M.K. 1/1845:3540 (*Valgipes* bucklandi) in lateral view. Scale bar: 10 cm.

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