Dataset

3D models related to the publication: Exon capture museomics deciphers the nine-banded armadillo species complex and identifies a new species endemic to the Guiana Shield.

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Abstract
This contribution contains 3D models of the holotype of a new species of long-nosed armadillos, the Guianan long-nosed armadillo (*Dasypus guianensis*) described in the following publication: Barthe M., Rancilhac L., Arteaga M. C., Feijó A., Tilak M.-K., Justy F., Loughry W. J., McDonough C. M., de Thoisy B., Catzeflis F., Billet G., Hautier L., Nabholz B., and Delsuc F. 2024. Exon capture museomics deciphers the nine-banded armadillo species complex and identifies a new species endemic to the Guiana Shield. Systematic Biology, syae027. https://doi.org/10.1093/sysbio/syae027

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INTRODUCTION

The nine-banded armadillo (*Dasypus novemcinctus*) is the most widespread xenarthran species ranging from northern Argentina to southern USA. Recent studies have suggested that this species comprises four morphologically and genetically distinct lineages of uncertain taxonomic status (Billet et al., 2017; Hautier et al., 2017; Feijó et al., 2018, 2019; Arteaga et al., 2020). To address this issue, Barthe et al., (2024) used a museomic approach to sequence 80 complete mitogenomes and capture 997 nuclear loci for 71 representative individuals of *Dasypus* across their entire geographic distribution. Phylogenetic reconstructions, population genomics, and species delimitation analyses of these molecular data all consistently supported four genetically distinct lineages within *D. novemcinctus*. Considering congruent morphological results from previous studies (Billet et al., 2017; Hautier et al., 2017; Feijó et al., 2018), Barthe et al., (2024) provided an integrative view to recognise four species within the *D. novemcinctus* complex: the nine-banded armadillo (*D. novemcinctus*), the Western Andean long-nosed armadillo (*D. fenestratus*), the Mexican long-nosed armadillo (*D. mexicanus*), and a newly described species endemic to the Guiana Shield, the Guianan long-nosed armadillo (*D. guianensis*). We present here 3D models of the holotype specimen (MNHN-ZM-MO-2001-1317) of *D. guianensis*, which was collected in 1998 during the Faune Sauvage rescue operation at the Petit-Saut dam (French Guiana) and is stored in the collections of the *Muséum national d'Histoire Naturelle* in Paris. More specifically, several body parts were reconstructed in 3D (Figure 1 and Table 1): the skeleton, frontal sinuses, and different parts of the carapace (pectoral shield, moveable bands, pelvic shield, cephalic shield, caudal shield, and limb shields).

M3 id.	Description
M3#1200	Skeleton and carapace
M3#1201	Frontal sinuses

Table 1. List of 3D surface models of the holotype of *Dasypus guianensis* (MNHN-ZM-MO-2001-1317). Collection : Muséum National d'Histoire Naturelle, Paris, France.

METHODS

The specimen MNHN-ZM-MO-2001-1317, a full body adult female of Guianan long-nosed armadillo stored in 70% alcohol, was imaged using high-resolution microtomography (µCT) at the AST-RX platform of the *Muséum national d'Histoire naturelle* (MNHN, Paris, France). The scan resolution was 98.9 µm. Image segmentation of the skeletal and carapace elements was performed on the µCT images with Avizo3D 2022.1 (Thermofisher Scientific) software using the segmentation threshold selection tool. The 3D virtual restoration was performed with MorphoDig software (v. 1.5.3; https://morphomuseum.com/morphodig). The 3D surface model of the specimen MNHN-ZM-MO-2001-1317 is provided in .vtk format, and can therefore be opened with a wide range of freeware. The image stack, from which the 3D model was reconstructed, is stored by the

MNHN and freely available upon request to the extant mammal collection of the MNHN (at colhelper.mnhn.fr).

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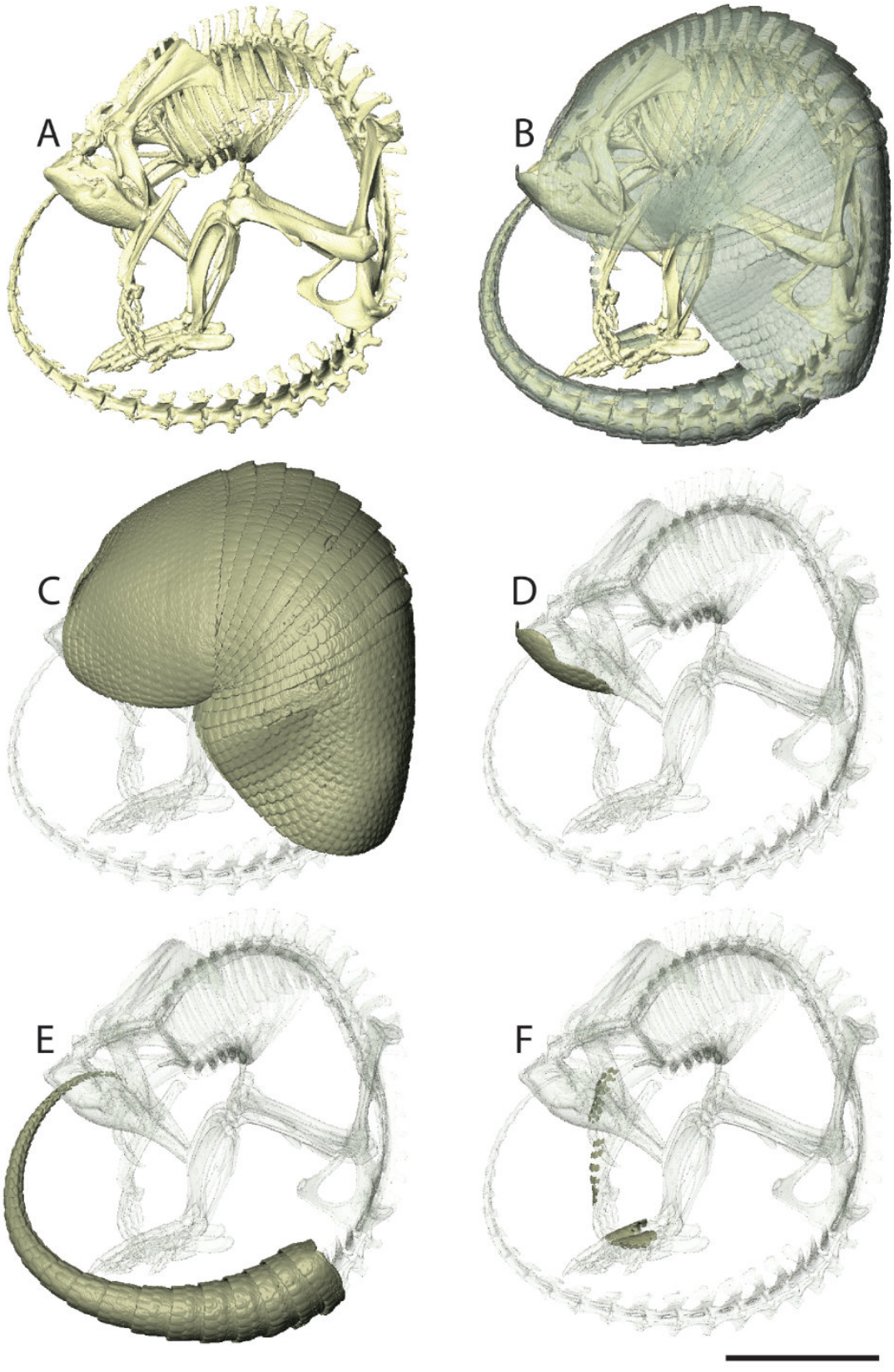

Figure 1. 3D reconstructions of the holotype specimen of *Dasypus guianensis* (MNHN-ZM-MO-2001-1317) in lateral view. A, skeleton; B, skeleton and whole carapace; C, pectoral shield, moveable bands, and pelvic shield; D, cephalic shield; E, caudal shield; F, limb shields. Scale bar represents 10cm.

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