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## 3D models related to the publication: The hidden teeth of sloths: evolutionary vestiges and the development of a simplified dentition.

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### Abstract

This contribution contains the 3D models described and figured in the following publication: Hautier L., Gomes Rodrigues H., Billet G., Asher R.J., 2016. The hidden teeth of sloths: evolutionary vestiges and the development of a simplified dentition. Scientific Reports. doi: [10.1038/srep27763](https://doi.org/10.1038/srep27763)

**Keywords:** homology, ontogeny, sloths, vestigial teeth

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Model IDs	Taxon
M3#109_ZMB 41122	<i>Bradypus variegatus</i>
M3#110_ZMB 33812	<i>Bradypus variegatus</i>
M3#111_MNHN-ZM-MO-1995-326A	<i>Bradypus variegatus</i>
M3#112_MNHN-ZM-MO-1995-326B	<i>Bradypus variegatus</i>
M3#113_MNHN-ZM-MO-1902-325	<i>Bradypus sp.</i>
M3#114_MNHN-ZM-MO-1995-327	<i>Bradypus sp.</i>
M3#115_MNHN-ZM-MO-1882-625	<i>Choloepus didactylus</i>

**Table 1.** List of associated models. All models stand as labelled three-dimensional reconstructions of the teeth, mandibles, maxillary and premaxillary bones.

### INTRODUCTION

This contribution contains a selection of the 3D models (see Table 1) described and figured in the following publication: Hautier, L., Gomes Rodrigues, H., Billet, G., Asher, R.J. 2016. The hidden teeth of sloths: evolutionary vestiges and the development of a simplified dentition. In this study, we present new data on xenarthran prenatal dental ontogeny and identify some developmental criteria with which to recognize homologies with other mammalian teeth. Our developmental data for extant sloths directly supports the claim that their lower caniniform teeth are not homologous to canines of other mam-

mals and that upper caniniforms are not homologous between the two-toed and the three-toed sloths (Hautier et al., 2016)

### METHODS

AVIZO 7.1 (Visualization Sciences Group) software was used for visualization, segmentation and 3D rendering. The teeth, dentary, maxillary, and premaxillary bones were extracted within a “labelfield” module of AVIZO, using the segmentation threshold selection tool. The 3D models are provided in .ply format, and as such can be opened with a wide range of freeware. Additional flag and position files specific to ISE-MeshTools (Lebrun, 2014) are provided in order to visualize the 3D labelled models in standard orientation.

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## BIBLIOGRAPHY

Hautier, L., Gomes Rodrigues, H., Billet, G., Asher, R.J. 2016. The hidden teeth of sloths: evolutionary vestiges and the development of a simplified dentition. Scientific Reports. doi: [10.1038/srep27763](https://doi.org/10.1038/srep27763)

Lebrun, R., 2014. ISE-MeshTools, a 3D interactive fossil reconstruction freeware. 12th Annual Meeting of EAVP, Torino, Italy