3D model related to the publication: Billet G., Germain D., Ruf I., Muizon C. de, Hautier L. 2013. The inner ear of *Megatherium* and the evolution of the vestibular system in sloths.

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Abstract: This contribution contains the 3D model described and figured in the following publication: Billet G., Germain D., Ruf I., Muizon C. de, Hautier L. 2013. The inner ear of *Megatherium* and the evolution of the vestibular system in sloths. Journal of Anatomy 123:557-567

Key words: bony labyrinth, *Megatherium*, sloth

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TECHNICAL AND SPECIMEN-RELATED PARAMETERS

Specimen inventory number	MNHN.F.PAM 276
Species	*Megatherium americanum*
Repository institution	Muséum National d'Histoire Naturelle, Paris
3D data acquisition institution	AST-RX platform, MNHN, Paris
3D data acquisition method	X-ray µCT
3D data acquisition facility model	v|tome|x 240 L, Phoenix X|ray
3D data acquisition operator	AST-RX platform, MNHN, Paris
Voxel size of original dataset	0.0934 mm
Author of derived 3D surface model	Guillaume Billet
Model ID	M3#14_ MNHN.F.PAM 276
Model short description	The specimen corresponds to a virtually reconstructed bony labyrinth of the right inner ear of the skull MNHN-F-PAM 276, attributed to the extinct giant ground sloth *Megatherium americanum*. The fossil comes from Pleistocene deposits at Rio Salado (Prov. Buenos Aires, Argentina). The bony labyrinth of *Megatherium* shows semicircular canals that are proportionally much larger than in the modern two-toed and three-toed sloths. The cochlea in *Megatherium* shows 2.5 turns, which is a rather high value within Xenarthra. Overall, the shape of the bony labyrinth of *Megatherium* resembles more that of extant armadillos than that of its extant sloth relatives.

METHODS

The inner ear was extracted within MIMICS (Materialize NV), using the segmentation threshold selection tool. The 3D model is provided in .ply format, and as such can be opened with a wide range of freeware.

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