Dataset

Neurocranium and endocranial anatomy of a new large Triassic dapediid.

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Abstract
The present 3D Dataset contains the 3D models analyzed in: "a giant dapediid from the Late Triassic of Switzerland and insights into neopterygian phylogeny", Royal Society Open Science. https://doi.org/10.1098/rsos.180497

Keywords: *dapedium*, Neopterygian, neurocranium, Triassic

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Model IDs	Description
M3#177	3D surface model
M3#178	CT-Data

Table 1. 3D data of *Scopulipiscis saxciput* PIMUZ-AI-3026

INTRODUCTION

In "A giant dapediid from the Late Triassic of Switzerland and insights into neopterygian phylogeny" we describe the neurocranium of a large fish fossil with the aid of 3D computed tomography and discern a relationship between that specimen and the deep bodied clade of fishes, dapediids. The raw data and 3D surface files of that fossil (PIMUZ-AI-3026) are available here. Surfaces of internal features of the neurocranium include the inner ears, braincase, and various endocranial passages including blood vessels and nerves (Figure 1 and table 1). See Latimer and Giles (2018) for anatomical description.

METHODS

The 3D surfaces were extracted using VG StudioMax 2.2 after either manual or semi-automatic region selection. They were post-processed using MeshLab to remove isolated pieces, merge close vertices, remove non-manifold edges and vertices, remove unreferenced vertices, and close holes. Where the files were unnecessarily large, they were also optimized in Meshlab using Laplace smoothing and quadratic edge decimation. The figure was made in blender.

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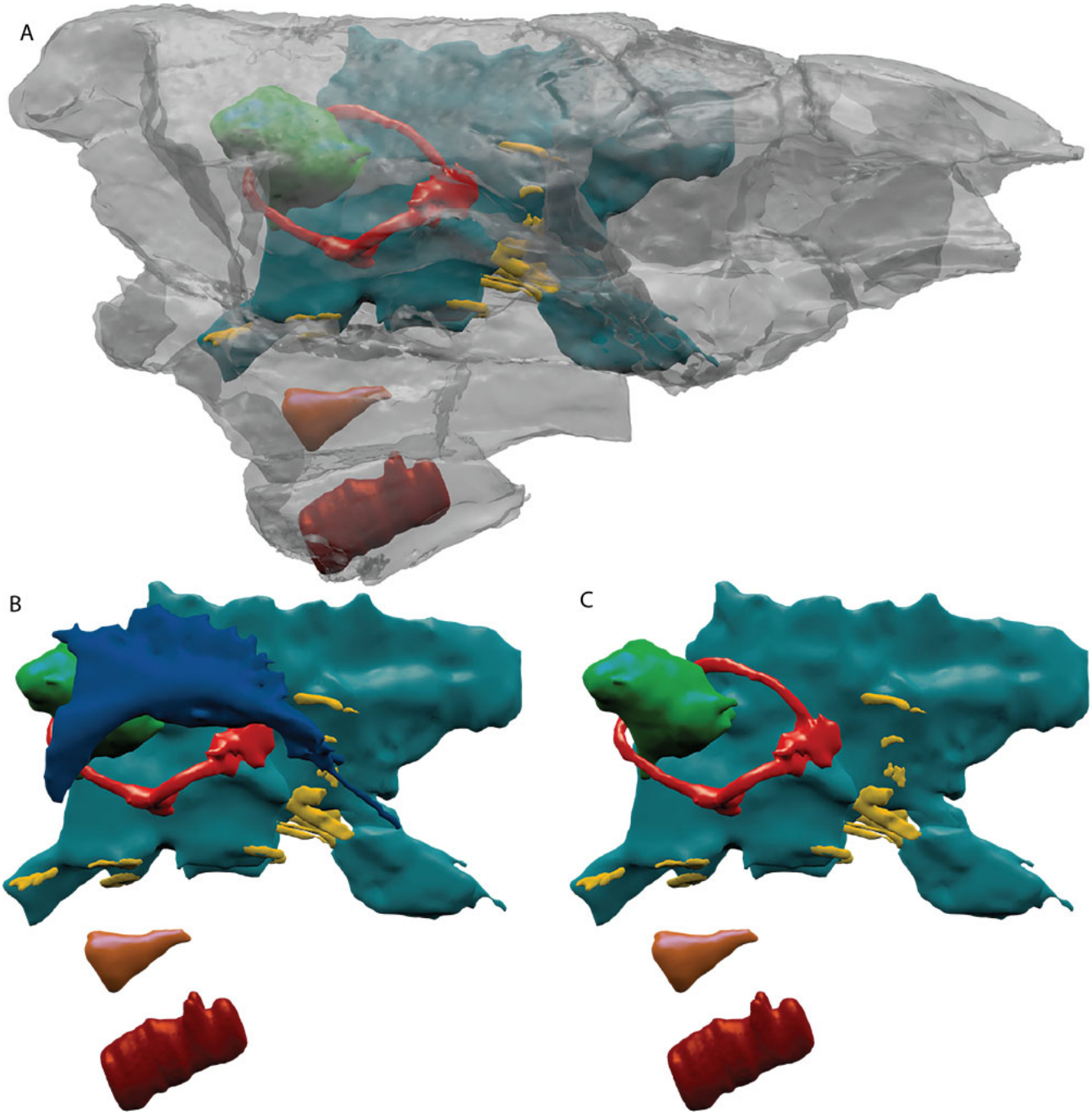

Figure 1. Computed tomography surfaces of PIMUZ-AI-3026.A. Position of the internal structrates relative to the neurocranium. Two views of the internal structures with B and without C the fossa bridgei. Fossa bridgei in dark blue, semicircular canals and dorsal aorta in red, nerves and blood vessels in yellow, braincase and posterior myodome in light blue.

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