Dataset

3D models related to the publication: The disappearing act of the magician tree snail: anatomy, distribution, and phylogenetic relationships of *Drymaeus magus* (Gastropoda: Bulimulidae), a long-lost species hidden in plain sight

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Abstract
The present 3D dataset contains the 3D models analyzed in the publication: Rosa, R. M., Salvador, R. B., & Cavallari, D. C. (2025). The disappearing act of the magician tree snail: anatomy, distribution, and phylogenetic relationships of *Drymaeus magus* (Gastropoda: Bulimulidae), a long-lost species hidden in plain sight. Zoological Journal of the Linnean Society.

Keywords: CT-scan, internal anatomy, Mollusca, Orthalicoidea, Stylommatophora

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Inv nr.	Description
M3#1597	Internal organs
M3#1598	External surface

Table 1. List of models of *Drymaeus magus* (CMRP 1049). Collection: CMRP, Universidade de São Paulo, Brazil.

INTRODUCTION

Drymaeus magus (Wagner *in* Spix & Wagner, 1827) is a species of tree snail native to southeastern Brazil. This species was originally described solely from empty shells, with no data on the anatomy of its soft organs (Spix & Wagner, 1827; Pilsbry, 1898). In Rosa et al. (submitted), we applied computed tomography to digitally reconstruct the internal organs of a specimen of *D. magus*, resulting in the 3D models presented herein (Fig. 1 and table 1). These models were used in an extensive redescription of this species, including new data on its external morphology and internal anatomy, among other analyses of its geographic distribution and phylogenetic relationships. This works showcases the potential of computed tomography for the study of molluscs.

METHODS

The models presented herein were reconstructed based on a specimen deposited in the Coleção Malacológica de Ribeirão Preto (CMRP) at the Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo (FFCLRP-USP), in Ribeirão Preto, Brazil. The specimen (CMRP 1049) was immersed in 30 mL of a contrasting solution composed of 1% phosphotungstic acid (PTA) and 1% dimethyl sulfoxide (DMSO) diluted in 70% ethanol for a period of 15 days. Following this procedure, the specimen was scanned using a Phoenix v—tome—x S240 Industrial High-Resolution CT & X-Ray System (General Electric, USA) at the Centro para Documentação da Biodiversidade, FFCLRP-USP. The high-resolution X-ray CT images were captured using the following settings: source at 70 kV and 200 µA, 1,000 projections, binning of 1 x 1, averaging 3 frames with 1 frame skipped, exposure time of 333.09 ms, default offset and gain correction, and no filter applied. The resulting dataset, composed of 16-bit grayscale images measuring 990 x 1,000 pixels, was processed using GE Phoenix Datos X2 software and VGStudio Max® 3.0 (Volume Graphics, Germany). The 3D surfaces were obtained by manual segmentation of the CT images using Amira 5.3.2 (Visage Imaging Inc.), applying interpolation across intervals of up to 5 slices to optimize processing time, and edited with MorphoDig 1.6. The 3D models are provided in .vtp format, allowing for their visualization in various software.

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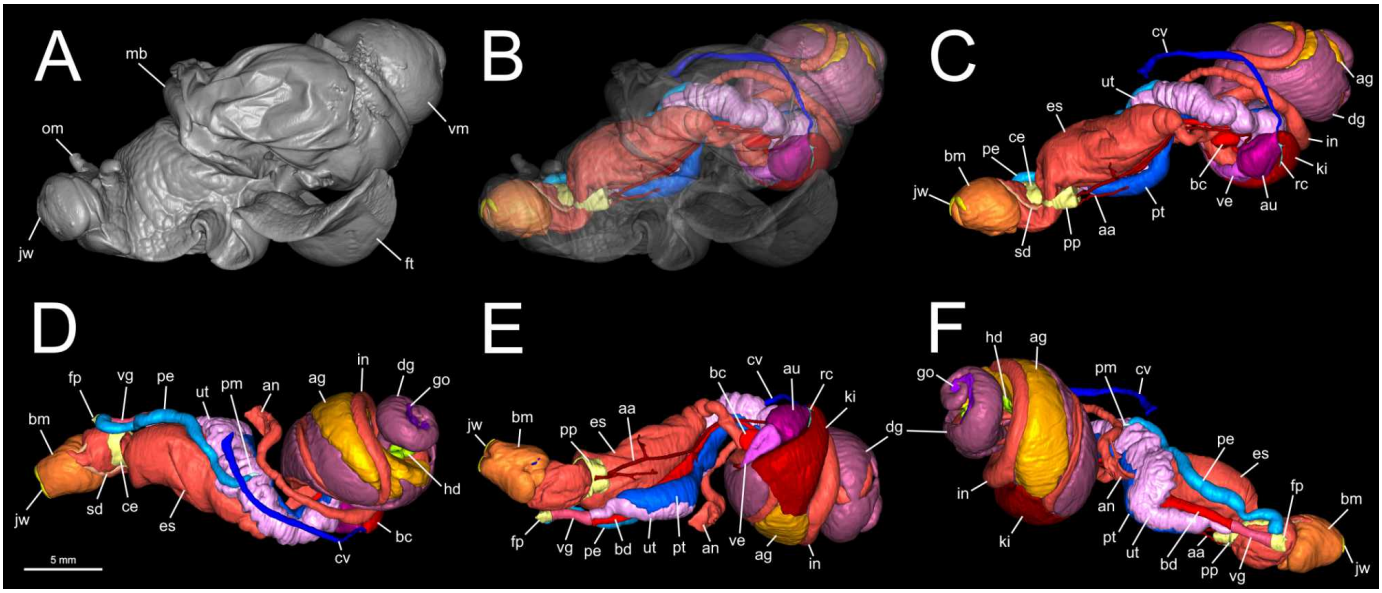

Figure 1. 3D reconstruction of the external surface and main internal organs of *Drymaeus magus* (CMRP 1049). **A.** External surface, lateral left view. **B.** Internal organs inside the organism, lateral left view. **C.** Internal organs, lateral left view. **D.** Internal organs, dorsal view. **E.** Internal organs, ventral view. **F.** Internal organs, lateral right view. **Abbreviations: aa**, anterior aorta; **ag**, albumen gland; **an**, anus; **au**, auricle; **bc**, bursa copulatrix; **bd**, bursa copulatrix duct; **bm**, buccal mass; **ce**, cerebral ganglion; **cv**, pulmonary (efferent) vein; **dg**, digestive gland; **es**, oesophagus; **fp**, genital pore; **ft**, foot; **go**, gonad; **hd**, hermaphrodite duct; **in**, intestine; **jw**, jaw; **ki**, kidney; **mb**, mantle edge; **om**, ommatophore; **pe**, penis; **pm**, penis muscle; **pp**, pedal ganglion; **pt**, prostate; **rc**, renopericardial canal; **sd**, salivary duct; **ut**, uterus; **ve**, ventricle; **vg**, vagina; **vm**, visceral mass.

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Rosa, R. M., Salvador, R. B., & Cavallari, D. C. (2025). The disappearing act of the magician tree snail: anatomy, distribution, and phylogenetic relationships of *Drymaeus magus* (Gastropoda: Bulimulidae), a long-lost species hidden in plain sight. *Zoological Journal of the Linnean Society* 203(3): zlaf017. https://doi.org/10.1093/zoolinnean/zlaf017.

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