

3D models related to the publication: Fossils from the Montceau-les-Mines Lagerstätte (305 Ma) shed light on the anatomy, ecology and phylogeny of Carboniferous millipedes.

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Abstract

The present 3D Dataset contains the 3D models analyzed in the publication: Lheritier et al. (submitted), Fossils from the Montceau-les-Mines Lagerstätte (305 Ma) shed light on the anatomy, ecology and phylogeny of Carboniferous millipedes. *Journal of Systematics Palaeontology*.

Keywords: Carboniferous, Juliformia, Montceau, Oniscomorpha

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Inv nr.	Taxon	Description
MNHN.F.SOT.2 134	<i>Amynilyspes fatimae</i>	Nearly complete specimen.
MNHN.F.SOT.1 4983	<i>Amynilyspes fatimae</i>	Nearly complete specimen.
MNHN.F.SOT.2 129	<i>Amynilyspes fatimae</i>	Nearly complete specimen.
MNHN.F.SOT.2 114A	<i>Blanzilius parriati</i>	Front part.
MNHN.F.SOT.5 148	<i>Blanzilius parriati</i>	Front part.
MNHN.F.SOT.2 113	<i>Blanzilius parriati</i>	Fragment with legs, sternites and possible tracheal openings.
MNHN.F.SOT.8 1522	<i>Blanzilius parriati</i>	Nearly complete specimen.

Table 1. List of models. Collection: Muséum d'Histoire Naturelle d'Autun and Muséum National d'Histoire Naturelle, Paris

INTRODUCTION

These models are the results of the reconstitution of two species of the class Diplopoda (millipede) from the Upper Carboniferous Montceau-les-Mines Lagerstätte (Lheritier et al., submitted). These two species are the Oniscomorpha *Amynilyspes fatimae* (Racheboeuf et al., 2004) (see fig 1) and the Juliformia *Blanzilius parriati* (Langiaux & Sotty, 1976) (see fig 2; see also table 1). The specimens are preserved in sideritic nodules in three dimensions with internal parts. The interest of micro-CT scanning was to reveal new morphological features to clarify the biology and ecology of these millipedes.

METHODS

The 3D surfaces were extracted semi-automatically within AVIZO 8.1.1 using the segmentation threshold selection tool. The 3D

surface models are provided in .ply format, and can therefore be opened with a wide range of freeware.

ACKNOWLEDGEMENTS

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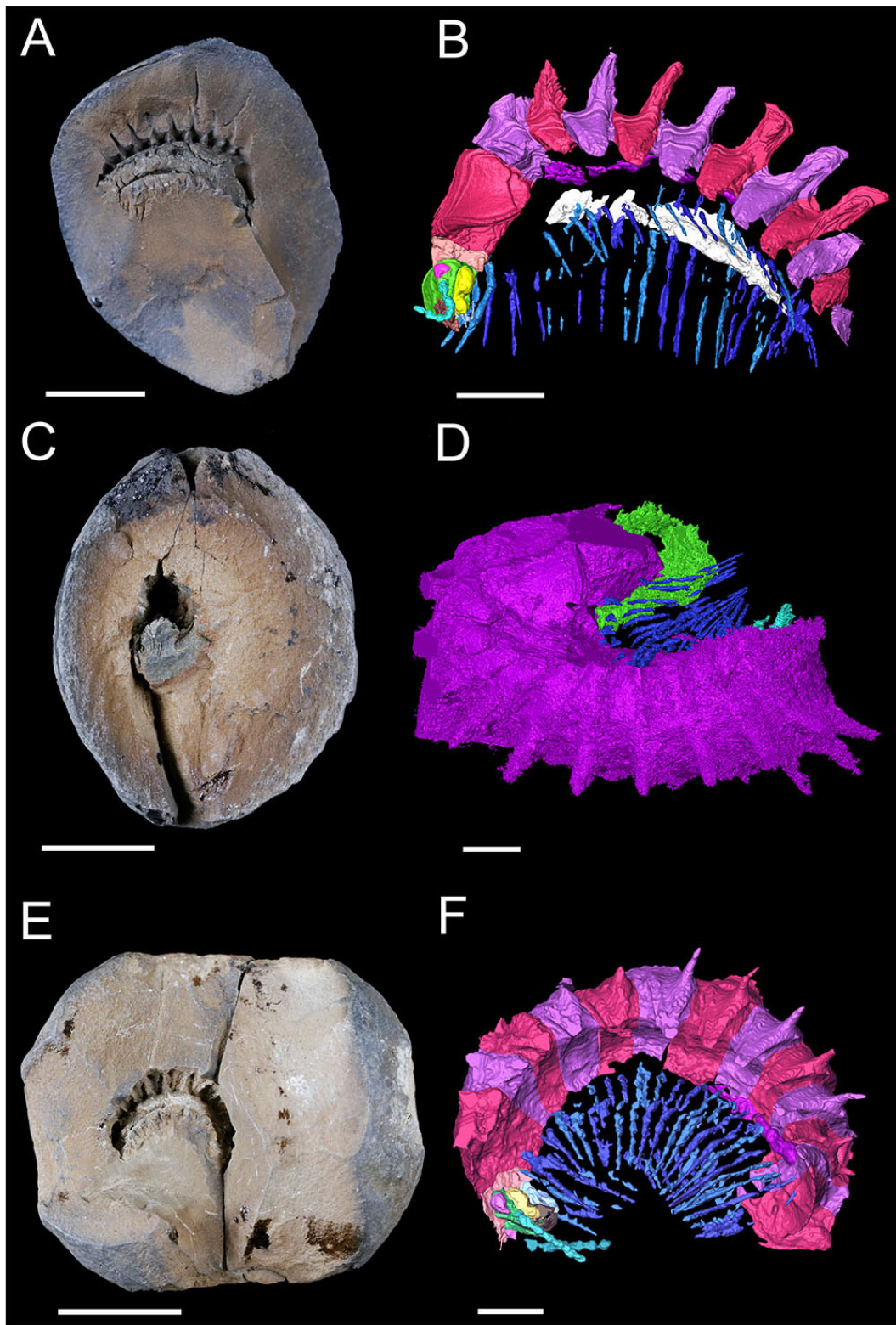


Figure 1. Specimens and 3D reconstructions of *Amynilyspes fatimae*. A-B: Holotype MNHN.F.SOT.2134. C-D: Paratype MNHN.F.SOT.14983. E-F : Paratype MNHN.F.SOT.2129. Beige=collum; blue=even legs; brown=gnathal lobe; cyan=antenna(e); dark blue=odd legs; green=head; light blue=gnathochilarium; light purple=odd terga; light red=even terga; pink=ocular field(s); purple=digestive tract; yellow=mandible base; white=sternite. MNHN.F.SOT.14983 : dark blue=legs; green=head; light blue=telopods; purple=terga. Scale bars represent: 1 cm (A, C and E), 3 mm (B); 2 mm (F); 1mm (D).

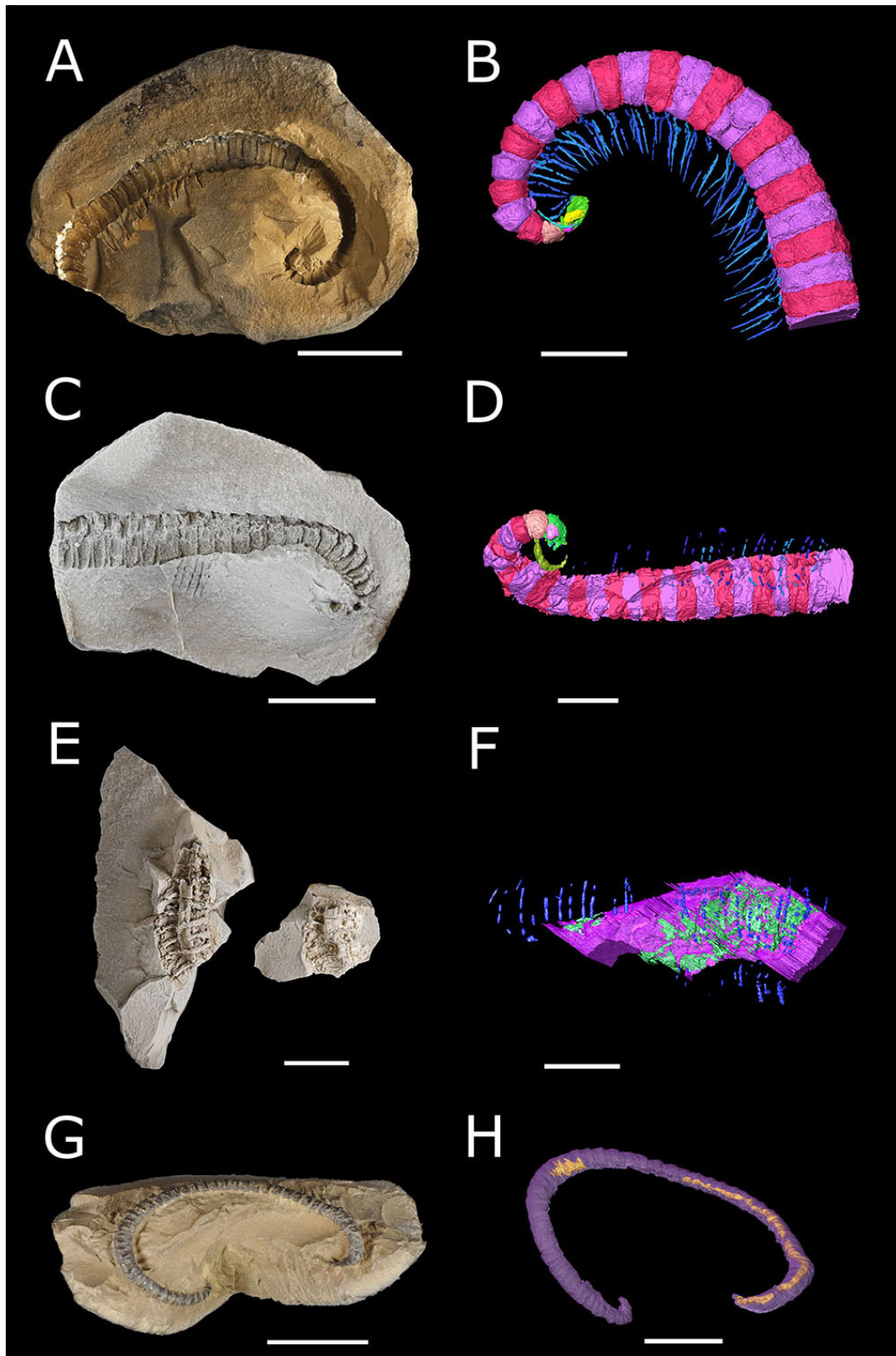


Figure 2. Specimens and 3D reconstructions of *Blanzilius parriati*. A-B : MNHN.F.SOT.2114a. C-D: MNHN.F.SOT.5148. E-F: MNHN.F.SOT.2113. G-F: MNHN.F.SOT.81522. Beige=collum; ; cyan=antenna; dark blue=odd legs; green=head; light blue=even legs; light purple=odd diploterga; light red=even diploterga; pink=ocular field(s); yellow=mandibular cardo and stipes. MNHN.F.SOT.2113: blue=legs; green=sternites; purple=diploterga. MNHN.F.SOT.81522: purple=diploterga; yellow=digestive tract. Scale bars represent: 1 cm (A, C, G); 5 mm (B, D, F, H); 3mm (E).