

A new brittle star from the early Carboniferous of Poland and its implications on Paleozoic modern-type ophiuroid systematics

Ben Thuy, Manfred Kutscher, and Bartosz J. Płachno Acta Palaeontologica Polonica 60 (4), 2015: 923-929 doi:http://dx.doi.org/10.4202/app.00093.2014

The fossil record of Paleozoic ophiuroids includes a number of forms which share striking similarities with modern relatives in terms of skeletal morphology. These so called modern-type Paleozoic ophiuroids yield an enormous potential for a better understanding of ophiuroid evolution, yet the scarcity of accurate and sufficiently detailed morphological descriptions available to date precludes any further-reaching assessments. Here, we describe an articulated ophiuroid specimen from the Late Tournaisian (early Carboniferous) of Czatkowice quarry, southern Poland, as a new species *Aganaster jagiellonicus* sp. nov. The good preservation of the specimen allowed for a morphological analysis at a level comparable to recent ophiuroid descriptions. It shows remarkable morphological similarities with extant former ophiolepidids *Ophiomusium* and *Ophiosphalma*. The new find thus contributes to a solid basis for future investigations on the position of the modern-type Paleozoic ophiuroid in the phylogeny of the class.

Key words: Echinodermata, Ophiuroidea, crown-group, evolution, Carboniferous, Tournaisian, Poland.

Ben Thuy [nebyuht@yahoo.com], Natural History Museum Luxembourg, Department of Palaeontology, 24, rue Münster, 2160 Luxembourg; Manfred Kutscher [kutscher@kreidemuseum.de], Dorfstrasse 10, 18546 Sassnitz, Germany; Bartosz J. Płachno [bartosz.plachno@uj.edu.pl], Department of Plant Cytology and Embryology, Jagiellonian University, ul. Gronostajowa 9, 30–387 Cracow, Poland.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see <u>creativecommons.org</u>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

