

A new thalassematid echiuran worm from the Middle Ordovician Castle Bank Biota of Wales, UK

Joseph P. Botting and Lucy A. Muir

Acta Palaeontologica Polonica 68 (4), 2023: 571-581 doi:10.4202/app.01107.2023

Echiurans (spoonworms) are a very distinctive group of polychaete annelids that had long been considered to constitute a separate phylum. Their fossil record is extremely limited, although trace fossils that have been suggested to be attributable to them date back as far as the Cambrian Period. The oldest body fossils are from the Carboniferous Mazon Creek Biota, and preserve only limited morphological detail. New material from the Middle Ordovician (Darrivilian, *Didymograptus murchisoni* Biozone) Castle Bank Biota of Wales shows fine detail of the morphology of a new taxon, *Llwygarua suzannae* gen. et sp. nov., including several details that indicate an assignment to the derived family Thalassematidae, allied to the speciose genus *Ochetostoma*. These details include proboscis morphology, anterior setae, and muscle organisation within the trunk. An additional specimen is described in open nomenclature, as it may be either a distinct species, or a juvenile of *Llwygarua suzannae* gen. et sp. nov. with a relatively elongated proboscis. These worms demonstrate a very early and previously unrecognised diversification of the echiuran group, further supporting an early diversification of Annelida as a whole.

Key words: Annelida, Echiura, Thalassematidae, Darriwilian, Middle Ordovician, United Kingdom.

Joseph P. Botting [acutipuerilis@yahoo.co.uk]; ORCID: <https://orcid.org/0000-0003-0388-8677>

], Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China; Department of Natural Sciences, Amgueddfa Cymru-National Museum Wales, Cathays Park, Cardiff CF10 3NP, UK. Lucy A.

Muir [lucy@asoldasthehills.org]; ORCID:

<https://orcid.org/0000-0001-6324-2259>], Department of Natural Sciences, Amgueddfa Cymru-National Museum Wales, Cathays Park, Cardiff CF10 3NP, UK.

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

 [Full text \(2.624.0 kB\)](#)