

## Bivalve-barnacle pseudoplanktonic colonisation of wood from the Toarcian, Lower Jurassic, Strawberry Bank Lagerstätte, Somerset, UK

Crispin T.S. Little, Andy Gale, Matt Williams, Øyvind Hammer and Vincent Fernandez  
*Acta Palaeontologica Polonica* 68 (1) 2023: 133-142 doi:<https://doi.org/10.4202/app.01018.2022>


Pseudoplankton are organisms that are adapted for a mode of life attached to floating objects. In modern oceans common examples are lepadid barnacles, which attach themselves to man-made and natural objects, especially wood logs. In the fossil record, pseudoplankton examples are commonly found in black shales, such as the lower Toarcian *Posidonia* Shale Formation of Germany. Here there are occasional large logs of fossil wood covered in specimens of the inoceramid bivalve *Pseudomytiloides dubius*, with or without specimens of the pentacrinid crinoid *Seirocrinus subangularis*. Some *Posidonia* Shale logs show evidence of for intra-species succession with younger *S. subangularis* specimens attached onto the stems of older ones. Another example of pseudoplankton from the *Posidonia* Shale is the occurrence of the numerous disarticulated specimens of the phosphatic-shelled eolepadid barnacle *Toarcolepas mutans* associated with a piece of fossil wood, which constitutes the oldest example of pseudoplanktonic barnacles in the fossil record. Here we report a limestone concretion from the lower Toarcian Strawberry Bank Lagerstätte (Ilminster, Somerset, UK) that preserves a piece of fossil wood with a pseudoplanktonic colony comprising at least a hundred specimens of *T. mutans* that attached onto a layer of *P. dubius* bivalves, that had already attached onto the wood. This is one of very few examples of temporal succession for pseudoplankton in the Toarcian and is also unusual in being preserved in a mixed carbonate-siliciclastic facies, rather than a black shale. The occurrence of *T. mutans* in the Strawberry Bank Lagerstätte concretion represents the second record of the species and also the equal oldest example of pseudoplanktonic barnacles in the fossil record.

**Key words:** Bivalvia, Cirripedia, Crinoidea, fossil wood, pseudoplankton, Strawberry Bank Lagerstätte, Toarcian, Early Jurassic, UK.

Crispin T.S. Little [[earcrl@leeds.ac.uk](mailto:earcrl@leeds.ac.uk); ORCID: <https://orcid.org/0000-0002-1917-4460>], School of Earth and Environment, University of Leeds, Woodhouse Lane, Leeds LS2 9JT, UK; Life Sciences Department, Natural History Museum, London, Cromwell Road, London SW7 5BD, UK. Andy Gale [[andy.gale@port.ac.uk](mailto:andy.gale@port.ac.uk); ORCID: <https://orcid.org/0000-0002-2075-3689>], School of Earth and Environmental Sciences, University of Portsmouth, Burnaby Building, Burnaby Road, Portsmouth PO1 3QL, UK; Earth Sciences Department, Natural History

Museum, London, Cromwell Road, London SW7 5BD, UK. Matt Williams [[matt.williams@brlsi.org](mailto:matt.williams@brlsi.org) ; ORCID: <https://orcid.org/0000-0001-7409-2655>], Bath Royal Literary and Scientific Institution, 16-18 Queen Square, Bath BA1 2HN, UK. Øyvind Hammer [[oyvind.hammer@nhm.uio.no](mailto:oyvind.hammer@nhm.uio.no); ORCID: <https://orcid.org/0000-0001-9951-0630> ], Natural History Museum, University of Oslo, Postboks 1172, Blindern, 0318 Oslo, Norway. Vincent Fernandez [[vinfernand@gmail.com](mailto:vinfernand@gmail.com); ORCID: <https://orcid.org/0000-0002-8315-1458>], Imaging and Analysis Centre, Natural History Museum, London, Cromwell Road, London SW7 5BD, UK; European Synchrotron Radiation Facility, 71 Avenue des Martyrs, 38000 Grenoble, France.

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

 [Full text \(1,283.9 kB\)](#) |

 [Supplementary file \(607.6 kB\)](#)