

Accepted Manuscript

Fossil calibrations for the arthropod tree of life

Joanna M. Wolfe, Allison C. Daley, David A. Legg, Gregory D. Edgecombe

PII: S0012-8252(16)30127-1
DOI: doi: [10.1016/j.earscirev.2016.06.008](https://doi.org/10.1016/j.earscirev.2016.06.008)
Reference: EARTH 2274

To appear in: *Earth Science Reviews*

Received date: 20 March 2016
Revised date: 15 June 2016
Accepted date: 16 June 2016



Please cite this article as: Wolfe, Joanna M., Daley, Allison C., Legg, David A., Edgecombe, Gregory D., Fossil calibrations for the arthropod tree of life, *Earth Science Reviews* (2016), doi: [10.1016/j.earscirev.2016.06.008](https://doi.org/10.1016/j.earscirev.2016.06.008)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1 **FOSSIL CALIBRATIONS FOR THE ARTHROPOD TREE OF LIFE**3 **AUTHORS**5 Joanna M. Wolfe^{1*}, Allison C. Daley^{2,3}, David A. Legg³, Gregory D. Edgecombe⁴6 ¹ Department of Earth, Atmospheric & Planetary Sciences, Massachusetts Institute of Technology,
7 Cambridge, MA 02139, USA8 ²Department of Zoology, University of Oxford, South Parks Road, Oxford OX1 3PS, UK9 ³Oxford University Museum of Natural History, Parks Road, Oxford OX1 3PZ, UK10 ⁴Department of Earth Sciences, The Natural History Museum, Cromwell Road, London SW7 5BD, UK11 *Corresponding author: jowolfe@mit.edu13 **ABSTRACT**

15 Fossil age data and molecular sequences are increasingly combined to establish a timescale for the
16 Tree of Life. Arthropods, as the most species-rich and morphologically disparate animal phylum, have
17 received substantial attention, particularly with regard to questions such as the timing of habitat shifts
18 (e.g. terrestrialisation), genome evolution (e.g. gene family duplication and functional evolution),
19 origins of novel characters and behaviours (e.g. wings and flight, venom, silk), biogeography, rate of
20 diversification (e.g. Cambrian explosion, insect coevolution with angiosperms, evolution of crab body
21 plans), and the evolution of arthropod microbiomes. We present herein a series of rigorously vetted
22 calibration fossils for arthropod evolutionary history, taking into account recently published guidelines
23 for best practice in fossil calibration. These are restricted to Palaeozoic and Mesozoic fossils, no
24 deeper than ordinal taxonomic level, nonetheless resulting in 80 fossil calibrations for 102 clades. This
25 work is especially timely owing to the rapid growth of molecular sequence data and the fact that many
26 included fossils have been described within the last five years. This contribution provides a resource

Download English Version:

<https://daneshyari.com/en/article/6442804>

Download Persian Version:

<https://daneshyari.com/article/6442804>

[Daneshyari.com](https://daneshyari.com)