

## **Echinoderm model systems, homology, and phylogenetic inference: Comment and reply to Paul (2021)**

Jennifer E. Bauer, Sarah L. Sheffield, Johnny A. Waters, and Colin D. Sumrall

*Acta Palaeontologica Polonica* 67 (2), 2022: 465-468 doi:<https://doi.org/10.4202/app.00956.2021>

Understanding the phylogenetic relationship among derived blastozoans has been a goal of researchers since phylogenetic methodologies were first applied to Paleozoic echinoderms. Paul (2021) proposed a new “pan-dichoporites” group to circumscribe early Paleozoic blastozoans. Unfortunately, this work includes many inaccuracies, non-reproducible analyses, and nonstandard method choices that confuse rather than advance the understanding of echinoderm paleobiology. Herein, we focus on key aspects of philosophy, methodology, and data reproducibility the publication of Paul (2021) raises that need to be addressed and considered by echinoderm researchers as they assess the concept of pan-dichoporite echinoderms.

Jennifer E. Bauer [[bauerjen@umich.edu](mailto:bauerjen@umich.edu)], University of Michigan Museum of Paleontology, 1105 North University Ave., Ann Arbor, MI 48109 USA. Sarah L. Sheffield [[ssheffield2@usf.edu](mailto:ssheffield2@usf.edu)], 4202 E. Fowler Ave, NES 102, Tampa FL, 33620, USA. Johnny A. Waters [[watersja@appstate.edu](mailto:watersja@appstate.edu)], Department of Geological and Environmental Sciences, Appalachian State University, 033 Rankin Science West, ASU Box 32067 Boone, NC 28608-2067, USA. Colin D. Sumrall [[csumrall@utk.edu](mailto:csumrall@utk.edu)], Department of Earth and Planetary Sciences, The University of Tennessee, 1621 Cumberland Avenue, 602 Strong Hall, Knoxville, TN 37996-1526, USA.

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.

