

Featured Article

- Dissecting the paleocontinental and paleoenvironmental dynamics of the great Ordovician biodiversification 221
Franziska Franeck and Lee Hsiang Liow

Articles

- Unusually variable paleocommunity composition in the oldest metazoan fossil assemblages 235
Seth Finnegan, James G. Gebling, and Mary L. Droser
- Modeling durophagous predation and mortality rates from the fossil record of gastropods 246
Grabam E. Budd and Richard P. Mann
- Were bivalves ecologically dominant over brachiopods in the late Paleozoic? A test using exceptionally preserved fossil assemblages 265
Shannon Hsieh, Andrew M. Bush, and J Bret Bennington
- An analysis of the impacts of Cretaceous oceanic anoxic events on global molluscan diversity dynamics 280
Nicholas A. Freymueller, Jason R. Moore, and Corinne E. Myers
- Reductions in body size of benthic macroinvertebrates as a precursor of the early Toarcian (Early Jurassic) extinction event in the Lusitanian Basin, Portugal 296
Veronica Piazza, Luís V. Duarte, Joban Renaudie, and Martin Aberhan
- Bone histology of *Azendohsaurus laaroussii*: Implications for the evolution of thermometabolism in Archosauromorpha 317
Jorge Cubo and Nour-Eddine Jalil
- Restricted morphospace occupancy of early Cambrian reef-building archaeocyaths 331
David R. Cordie and Stephen Q. Dornbos
- Morphological innovation and the evolution of hadrosaurid dinosaurs 347
Thomas L. Stubbs, Michael J. Benton, Armin Elsler, and Albert Prieto-Márquez
- Reconstructing the mass and thermal ecology of North American Pleistocene tortoises 363
Donald A. Esker, Steve L. Forman, and Dava K. Butler
- Phylogeny, ancestors, and anagenesis in the hominin fossil record 378
Caroline Parins-Fukuchi, Elliot Greiner, Laura M. MacLatchy, and Daniel C. Fisher

PALEOBIOLOGY

EDITORS

Mark Patzkowsky, Editor-in-Chief, *Pennsylvania State University, USA*
Kevin Boyce, *Stanford University, USA*
James Crampton, *GNS Science, New Zealand*
Nadia Fröbisch, *Museum für Naturkunde Berlin, Germany*
Wolfgang Kiessling, *Friedrich-Alexander University of Erlangen-Nürnberg, Germany*

ASSOCIATE EDITORS

Martin Aberhan, *Museum für Naturkunde Berlin, Germany*
Catherine Badgley, *University of Michigan, USA*
Paul Barrett, *Natural History Museum, London, UK*
Julia Clarke, *University of Texas, USA*
Laurel Collins, *Florida International University, USA*
Kristina Curry Rogers, *Macalester College, USA*
John Finarelli, *University College Dublin, Ireland*
David L. Fox, *University of Minnesota, USA*
Anjali Goswami, *University College London, UK*
Jason Head, *University of Cambridge, UK*
Melanie Hopkins, *American Museum of Natural History, USA*
Cynthia Looy, *University of California Berkeley, USA*
Jonathan Marcot, *University of California, Los Angeles, USA*

MANAGING EDITOR:

Jessica Kastigar, *Cincinnati, Ohio, USA, paleobiology@cambridge.org*

FOUNDING EDITORS:

Thomas J. M. Schopf and Ralph G. Johnson



MEMBERSHIP INFORMATION

Members of the Paleontological Society automatically receive electronic subscriptions to *Paleobiology* and the *Journal of Paleontology* as a benefit of membership. To apply for individual membership, please go to the Paleontological Society's homepage at <http://paleosoc.org/>, where links to an electronic application, a printable paper application form, and a complete list of membership benefits are provided under the Membership heading.

The Patrons Fund was established to broaden the basis of financial support for Paleobiology and thus to encourage paleontological publication.

The Paleontological Society gratefully acknowledges the following Patrons of *Paleobiology*:

PALEOBIOLOGY PATRONS

RICHARD P. ALVORD
ROBERT L. ANEMONE
NAN CRYSTAL ARENS
CATHERINE BADGLEY
DAVID J. BOTTJER
WILLIAM A. CLEMENS
PAOLO CUSTODI
WILLIAM A. DIMICHELE
RUSSELL ENGELMAN
DOUGLAS H. ERWIN
JOHN C. HANDLEY
AUGUST ILG
JEREMY B. C. JACKSON
SUSAN M. KIDWELL
DAVID R. LINDBERG
ERNEST L. LUNDELIUS, JR.
HARUYOSHI MAEDA
GEORGE R. MCGHEE, JR.
ARNOLD I. MILLER
WILLIAM C. MILLER, III
MARK E. PATZKOWSKY
P. DAVID POLLY
DAVID L. RODLAND
IN MEMORY OF TOM SCHOPF
JAMES SPRINKLE
JACEK K. SULANOWSKI
SHERMAN SUTER
ROGER D. K. THOMAS
BRUCE H. TIFFNEY
GEERAT J. VERMEIJ
RON F. WASZCZAK
JOHNNY WATERS

To become a Patron, send a check payable to *Paleobiology* to:

Paleobiology Patrons Fund
The Paleontological Society
P.O. Box 9044
Boulder, CO 80301-9044

SUBSCRIPTION INFORMATION

Paleobiology [ISSN 0094-8373] is published four times a year (February, May, August, and November) by Cambridge University Press (One Liberty Plaza, 20th Floor, New York, NY 10006) for the Paleontological Society. Members of the Paleontological Society automatically receive electronic subscriptions to *Paleobiology* and the *Journal of Paleontology* as a benefit of membership. Institutional subscriptions can be purchased direct from Cambridge University Press or through any major subscription agent. Print-only, online-only, and bundled print and online prices are all available, and subscription prices are tiered according to institution type and size.

Please contact Cambridge University Press for further details:

For customers in North America

Email: subscriptions_newyork@cambridge.org

Phone: (800) 872-7423, option 4

For customers outside of North America

Email: journals@cambridge.org

Phone: +44 (0)1223-32-6070; Fax: +44 (0)1223-32-5150

Downloads of individual articles are available on <https://www.cambridge.org/core/journals/paleobiology>.

Reprints of individual articles may be ordered. For information on reprints, please contact Cambridge University Press.

Archives of previous issues are available on <https://www.cambridge.org/core/journals/paleobiology>.

Permissions All rights reserved. Permissions and reproduction policies, request forms, and contacts are available at: <http://www.cambridge.org/about-us/rights-permissions/>

ADVERTISING

To advertise in the journal please contact M. J. Mrvica Associates, 2 West Taunton Avenue, Berlin, NJ 08009; Phone: 856-768-9360; Fax: 856-753-0064; Email: mjmrvica@mrvica.com

ABSTRACTING AND INDEXING

Abstracting and indexing information for *Paleobiology* is available at: <https://www.cambridge.org/core/journals/paleobiology/information/abstracting-and-indexing>

POSTAL INFORMATION

Periodicals postage rate paid at New York, NY, and at additional mailing offices. POSTMASTER: Send address changes in the USA, Canada, and Mexico to: *Paleobiology*, Cambridge University Press, Journals Fulfillment Department, One Liberty Plaza, 20th Floor, New York, NY 10006. Send address changes elsewhere to *Paleobiology*, Cambridge University Press, Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge CB2 8BS, England.

Copyright © 2019 The Paleontological Society. All rights reserved.

Printed in the United States of America