## Paleobiology

(ISSN 0094-8373)

Volume 29

Number 2

Spring, 2003

## CONTENTS

Afficies	
Environmentally driven variation in ancient populations of turritellids: evaluating the causal link	
Kristin P. Teusch and Robert Guralnick	163
Estimation of stratigraphic ranges when fossil finds are not randomly distributed  Andrew R. Solow	181
The pattern of evolution in Pleistocene human brain size  Sang-Hee Lee and Milford H. Wolpoff	186
Mapping the origin of faunal assemblages using strontium isotopes  Stephen Porder, Adina Paytan, and Elizabeth A. Hadly	197
Paleoecological reconstruction of a lower Pleistocene large mammal community using biogeochemical (δ¹³C, δ¹⁵N, δ¹⁵O, Sr:Zn) and ecomorphological approaches	
Paul Palmqvist, Darren R. Gröcke, Alfonso Arribas, and Richard A. Fariña	205
Stable isotopes, hypsodonty, and the paleodiet of <i>Hemiauchenia</i> (Mammalia: Camelidae): a morphological specialization creating ecological generalization	
Robert S. Feranec	230
Vertebral pneumaticity, air sacs, and the physiology of sauropod dinosaurs  Mathew J. Wedel	243
Reconstruction of Tertiary <i>Metasequoia</i> forests. I. Test of a method for biomass determination based on stem dimensions  Christopher J. Williams, Arthur H. Johnson, Ben A. LePage, David R. Vann, and	
Karen D. Taylor	256
Reconstruction of Tertiary <i>Metasequoia</i> forests. II. Structure, biomass, and productivity of Eocene floodplain forests in the Canadian Arctic	
Christopher J. Williams, Arthur H. Johnson, Ben A. LePage, David R. Vann, and Tatsuo Sweda	271
Book Reviews	
Dinosaurs of the Air: The Evolution and Loss of Flight in Dinosaurs and Birds. Gregory S. Paul Kevin Padian	293
Fossils, Phylogeny, and Form: An Analytical Approach. Edited by Jonathan M. Adrain, Gregory D. Edgecombe, and Bruce S. Lieberman	
Maureen A. O'Leary	298
Books Received	303
Erratum	i

A quarterly journal of The Paleontological Society © 2003 The Paleontological Society. All rights reserved. Mailing Date: 16 May 2003

CODEN PALBBM 29(2) 163–304 (2003) https://doi.org/10.1017/S0094837300018169 Published online by Cambridge University Press

Electronic submission (PDF format) is requested: paleobiology.journal@nmnh.si.edu

Or send manuscripts to: Allegra M. Jabo, Paleobiology

Courier Address:

Dept. of Paleobiology, MRC 121 National Museum of Natural History 10th St. & Constitution Ave. NW Smithsonian Institution Washington, D.C. 20560-0121

Mailing Address:

Dept. of Paleobiology, MRC 121 National Museum of Natural History P.O. Box 37012 Smithsonian Institution Washington, D.C. 20013-7012

Address all requests for Permissions to the Editorial Office.

You can view and download Paleobiology from the world wide web in four places. Volumes 1-22 are at http://www.jstor.org. (PDF only, requires library subscription to ecology journals within JSTOR.) Current issues back to volume 26(1) are at http://www.bioone.org/ (with a library subscription to BioOne), and at http://www.psjournals.org. Titles and abstracts back to volume 22 are free at http://apt.allenpress.com/.

Source code for many programs published in PALEOBIOLOGY is available at http://geosci.uchicago.edu/paleo/csource.

COEDITORS:

JOHN M. PANDOLFI and WILLIAM A. DIMICHELE

Smithsonian Institution

Matters of the Record EDITOR: HALLIE J. SIMS

Smithsonian Institution

EDITORIAL ASSISTANT: ALLEGRA M. JABO

COPYEDITOR: NATASHA ATKINS

FOUNDING EDITORS: THOMAS J. M. SCHOPF' and RALPH G. JOHNSON

Address ALL matters regarding SUBSCRIPTIONS to:

Paleobiology Subscriptions

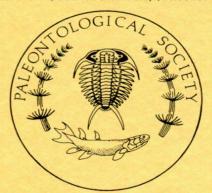
P.O. Box 1897 810 East 10th St.

Lawrence, KS 66044-8897

Although Paleobiology is published by The Paleontological Society, a subscription to the journal is in addition to the society dues. There are five groups of subscribers. For 2003, subscriptions are:

- \$46.00 for regular subscribers.
- (2) \$41.00 for members of The Paleontological Society or the Palaeontological Association.
- (3) \$30.00 for student subscribers.
- (4) \$23.00 for student members of The Paleontological Society or the Palaeontological Association.
- (5) \$90.00 for institutions.

Back issues: \$4.00 for members, \$16.00 for nonmembers. Price includes postage and handling.





PALEOBIOLOGY (ISSN 0094-8373) is published quarterly by The Paleontological Society, 810 East 10th St., Lawrence, KS 66044, USA. Periodicals postage paid at Lawrence, KS. POSTMASTER: Send address changes to PALEOBIOLOGY, P.O. Box 1897, 810 East 10th St., Lawrence, KS 66044-8897, USA.

PALEOBIOLOGY is printed offset by Allen Press, Inc., Lawrence, KS 66044.

The Paleontological Society gratefully acknowledges Patrons of *Paleobiology* for 2003.

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

\$50.00 to \$100.00, at the discretion of the Contributor

For you, or your institution, to become a Patron, send a check payable to *Paleobiology* to:

Paleobiology
Department of Paleobiology, NHB121
Smithsonian Institution
Washington, DC 20560

## PALEOBIOLOGY PATRONS FOR 2003

N. W. ARCHBOLD CATHERINE BADGLEY RICHARD K. BAMBACH DAVID J. BOTTJER DONALD W. BOYD DIANE L. BOYER BEATRICE L. BURCH LEO W. BUSS WILLLIAM A. CLEMENS JR. MIGUEL DE RENZI DOUGLAS K. DEW SAMUEL R. EDWARDS KARL W. FLESSA CAROLE S. HICKMAN JOHN R. HORNER Frederick H. C. Hotchkiss AUGUST ILG IN MEMORY OF TOM SCHOPF CHARLES KING WANN LANGSTON JR. DAVID R. LINDBERG ERNEST L. LUNDELIUS JR. HARUYOSHI MAEDA GEORGE R. McGHEE JR. WILLIAM A. OLIVER JR. KEVIN PADIAN ADOLF SEILACHER SHERMAN SUTER JOHN M. TATE ROGER D. K. THOMAS KEITH S. THOMSON JAMES W. VALENTINE GEERAT J. VERMEIJ