



Priscum

Newsletter of the
Paleontological Society



Special points of interest:

- Lots of grant awardees
- New membership benefits
- Education and Outreach news and grant details
- Distinguished Lecture Program
- New PS Student Ambassador Program and grant
- Section news

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New members-only section on the updated society website

All Society information, including new officers, student poster awards, student research awards, Section minutes, Email Digests, *Priscum*, and other society news and information have been posted to the Society website at www.paleosoc.org. Thanks to Dena Smith (University of Colorado) for updating and maintaining our website!

There you can also find a new members-only section. Just navigate to rock.geosociety.org/membership/paleo for access to the on-line version of the *Treatise on Invertebrate Paleontology*, discounts on bound versions of the *Treatise*, Society member directory, discounts on books and other purchases through many publishers, among other benefits. For access to the

Treatise portion, note that you will need to use the special Paleontological Society username and password available at the bottom of the members-only site.



Mid-year council meeting news

By Lisa Park Boush, Secretary
The Society Council held their Mid-Year Meeting in Pittsburgh, Pennsylvania on March 19, 2011. Council approved the nominations for Officers for Society elections in August. They also approved holding the Education and Outreach Award competition and increasing the award to



include money to accommodate the taxes charged to the recipient. Council also approved an increase for the Distinguished Lecture program to \$1200/speaker for the 3 speakers in the program, with a minimum of \$400/trip for each. Both the *Journal of Paleontology* and *Paleobiology* will be using DRYAD for supplementary information and Council approved an increase in membership fees by \$5 for regular and retired members (spouses and students will remain the same). Check other sections in this issue of *Priscum* for additional information on these updates.

My two cents: Update from the treasurer...

By Roy E. Plotnick, Treasurer

I am pleased to report that the Society's finances are in excellent shape. Our investments have rebounded well from the decline suffered during the market downturn. A great deal of credit goes to the investment advisor who was first brought in by my predecessor, Mark Patzkowsky. Our total assets at the end of 2010 stood at more than \$2.6 million dollars.

These assets are distributed internally among a variety of restricted and unrestricted funds. The restricted funds are used to support society activities in their designated areas. Many of these are named funds, created as part of our Centennial Campaign, that honor distinguished paleontologists and support student research. Donations to any of these funds would be gladly accepted!

One fund I would like to point out is the more than \$80,000 that we hold in trust for ANAPS in order to run the North American Paleontological Convention. This money is available as seed money for anyone wishing to run an NAPC (hint, hint).

"The Society's finances are in excellent shape..." In terms of initiatives, we now provide \$1000 to each section to support its activities. We also launched a \$10,000 grant program to support outreach efforts; this funding will be renewed for 2011. In addition to our repeated support of the Paleobiology Database Summer Course, we also supported a field course to Gerace Research Centre (San Salvador, Bahamas) run by Mike Kowalewski and Tom Rothfus. A grant from NSF reimbursed student travel to IPC-3. All of this is in addition to our continuing funding of student research. For 2011 we have increased our annual donation to the *Treatise of Invertebrate Paleontology*. This will give our members free access, through our website, to the *Treatise Online*. Finally, in order to encourage membership, we arranged with a number of publishers for standing discounts for their books. (See page 3 for details on accessing these and other member benefits.)

One major change in operations in 2010 has been the hiring of an accounting firm to prepare our taxes, which have become far more complex due to IRS rules and the growth of our investments and budget. This firm also prepares an annual review of our finances, which forms the basis of the report of our internal audit committee. I would like to

thank Mike Foote and Steve Dornbos for their efforts as members of the audit committee for 2010.

An even more significant change occurred as we contracted with the GSA to provide significantly upgraded management services, beginning in January 2011. This change has been several years in the making, as it became clear that continuing to function as a strictly volunteer organization placed undue burdens on the officers. This change did not come easily; numerous competing proposals were examined, until it was decided that working with GSA would give us the best "bang for the buck." The assumption of day-to-day operations by GSA will free members of the council to focus on strategic aspects of running the society. Hopefully the transition will be transparent to our members and will also result in a noticeable improvement in service. Please be patient and keep us informed of any problems. I should also point out that institutional subscriptions and back orders, as well as the printing of the journals, remains with Allen Press.

My goal as Treasurer is see that the society's funds are used to reach its goal to promote the profession of paleontology. I strongly encourage members to approach the council with suggestions for worthwhile projects that we can support. I also welcome your creative input and suggestions.



Want to purchase back issues of Society Special Publications?

Effective May 2009, Paleontological Research Institution in Ithaca, New York, assumed the role of publications sales agent for back issues in the PS Special Publications series. All previous publications are available for order (\$20 per volume plus shipping and handling) at the PRI Publications website. Starting with volume 16, volumes will be \$25.00 per copy. Order at www.museumoftheearth.org/publications/bookstore.php or contact Dr Paula M. Mikkelsen, PRI Director Publications (pmm37@cornell.edu or by phone 607-273-6623, ext 20).

Are you taking advantage of all your membership benefits?



The Society is pleased to announce that all members are eligible for substantial discounts on books published by the University of Chicago Press, Indiana University Press, Columbia University Press, and Princeton University Press, as well as the *Treatise on Invertebrate Paleontology*. We are grateful to the publishers for their generosity!

Note that these discounts are for Society members only. Please do not distribute!

Treatise on Invertebrate Paleontology: Members are eligible for a 20% discount on hard-copy volumes of the *Treatise on Invertebrate Paleontology*. To receive your discount, you will need to order by fax (785-864-3636) or phone (785-864-3338) and provide the code Paleosociety2010. See the Treatise website www.paleo.ku.edu/treatise for prices and availability.

University of Chicago Press: 30% discount when you use promotion code PALEO. This applies to all publishers marketed by the University of Chicago Press books division. Website: www.press.uchicago.edu

Indiana University Press: Receive 30% off list prices of Indiana University Press books (sale items excluded). Enter code WMG3XX at checkout. View their paleontology titles here: www.iupress.indiana.edu/paleontology

Princeton University Press: Society members receive 20% off any Princeton University Press title. Please click here for details: www2.allenpress.com/pdf/PrincetonUniversityPress.pdf. For orders in the US/Canada: Enter keycode PO4434 in the Catalog Code box during checkout on our website, or, call 1-800-777-4726 (mention keycode PO4434). Outside the US/Canada, visit press.princeton.edu/ordering.html for more information.

Columbia University Press: Receive a 20% discount on paleontology titles. For a full list of titles on sale, please visit www.cup.columbia.edu/subject/40/35. You can also access this list by clicking on "browse subjects," then selecting "Science" and then choosing "Paleontology" from the drop-down menu. After selecting the titles you wish to order, enter the code PALEO in the "redeem coupon" box. The box appears on the page after you enter your shipping and billing information and includes simple instructions.

Palaeontological Association: Discounted member rates on publications of the Palaeontological Association (www.palass.org).



**PS Members
receive
discounts on
books and
other
materials!**

2013 North American Paleontological Convention?

It is time to begin planning the 10th North American Paleontological Convention, which will be held during the summer of 2013. Two or three possible venues have been suggested, but no firm plans have yet been made. So, this message constitutes a request for proposals and/or suggested sites for NAPC 2013. Please send your proposals and/or suggestions by email (or in any other way) to Mark A. Wilson, Department of Geology, The College of Wooster, Wooster, Ohio 44691 or by e-mail at mwilson@wooster.edu



Education and Outreach news

A new reconstituted Education and Outreach Committee has been formed to better serve the paleontological needs of educators. Chaired by Peg Yacobucci, committee members include Danita Brandt, Phoebe Cohen, Sean Cornell, David Goldsmith, Alan Goldstein, Talia Karim, Joanne Kluessendorf, Stephen Schellenberg, Judy Scotchmoor, Dena Smith, Dale Springer, and Leif Tapanila. The Committee is working to produce a set of classroom and outreach activities that will be freely distributed via the Society website and that will have a standardized format, explicit connections to common state science standards, and clear indication of Society sponsorship. It is hoped that Society members will be able to download these materials for use in their own outreach efforts and to share them with PK-12 educators. They are also announcing an Education and Outreach Grant (see sidebar for details).

Education and Outreach Grant announcement

The Paleontological Society works to increase the public's awareness and understanding of paleontology by enhancing formal and informal educational opportunities. The Paleontological Society Outreach and Education Grant provides support to our members for programs and activities involving educational outreach and community engagement.

**Deadline for
\$2500 Education
& Outreach grant
submission is
June 30, 2011**

Potential fundable projects include, but are not limited to, field trips to fossil sites and/or museums for teachers and pre-college students, educator training and curriculum development, participation in local community initiatives, development of educational materials for classroom use, and website or other online material development. The subject matter covered by outreach proposals may fall within any subdiscipline of paleontology/paleobiology. Particularly encouraged are projects that (1) include opportunities for undergraduate students to become involved in paleontological outreach to younger students or the public, and/or (2) produce educational materials that could be distributed more widely through the PS website. The Paleontological Society will issue four grants of \$2500 each. Deadline for submission is June 30, 2011. See [www.paleosoc.org/PS Outreach Education Award Solicitation 2011.pdf](http://www.paleosoc.org/PS%20Outreach%20Education%20Award%20Solicitation%202011.pdf) for additional details.

Congratulations to the 2010 Education and Outreach awardees!

Tiffany Adrain (University of Iowa)

Discovering Iowa's fossil treasure: enhancing outreach education resources at Iowa's Devonian Fossil Gorge

Kate Bulinski (Bellarmine University)

The Museums and Fossils Institute for K-12 Educators

Phoebe Cohen (MIT)

Telling your story: facilitating relationships between paleontologists & geoscientists and K-12 Classrooms

Katherine Johnson (Eastern Illinois University)

Paleontology workshop for science teachers of grades 7-12 in east-central Illinois



Conservation Paleobiology short course to be published by University of Chicago Press

The very successful 2009 short course on Conservation Paleobiology edited by Gregory Dietl and Karl Flessa will soon be published as a University of Chicago paperback book. Encourage your institutional libraries to purchase the book because the Society will not receive a royalty until a threshold number of copies are sold. In the meantime, old copies are no longer available from the [PRI web-site](http://PRIweb-site). Additional on-line content remains available at www.museumoftheearth.org/files/pubtext/supplements/suppl_545.pdf

Distinguished Lecture Program

Linda C. Ivany, Councilor-at-Large

The Paleontological Society is proud to support the Distinguished Lecturer Program, with the goal of bringing outstanding scientists to colleges, universities, and public events to speak about cutting-edge paleontological research, evolution, and the nature of science. The long history of life on our planet offers countless opportunities to explore the mechanisms and fascinating consequences of evolution, extinction, and ecosystem change. The response of the world's biota to global climate change has become an important issue today, and paleontologists can provide an important perspective on this from research in the deep-time record. Through this program, we hope to increase the visibility of paleontological research and to communicate its unique insights to the community at large. We support three lecturers each year on rotating, two-year terms. Each is known as an excellent speaker who communicates the interest and importance of his or her work in paleontology especially well to both academic and public audiences. Speakers offer talks appropriate to a general, non-specialist audience and talks geared to academic disciplinary fields. Current speakers are listed below, with their subject areas and contact information. Additional information is available at www.paleosoc.org/speakerseries.html.

Peter Wilf (2010-2012), Pennsylvania State University
(pwilf@psu.edu)

- *Ancient biodiversity at the end of the world: Paleogene floras of Patagonia rediscovered*
- *Insect-damaged fossil leaves show how food webs respond to ancient climate change and extinction*
- *Fossil angiosperm leaves: paleobotany's difficult children prove themselves*



image by Kirk McCoy, Los Angeles Times



Patricia Kelley (2010-2012), UNC at Wilmington
(kelley@uncw.edu)

- *Teaching evolution with integrity and sensitivity*
- *Evolution and creation: conflicting or compatible?*
- *The arms race from a snail's perspective: evolution of the naticid gastropod predator - prey system*



Gene Hunt (2011-2013), Smithsonian Institution
(hunte@si.edu)

- *Understanding the fossil record of evolution: from Darwin to today*
- *Climate change and body size trends in deep-sea ostracodes*



The Distinguished Lecturers have agreed to make themselves available on an expenses-only basis; no honorarium is required. The Society provides up to \$400 toward speaker travel to give lectures. The host institution is expected to cover on-site expenses, including meals and lodging. Travel support is currently available on a first-come, first served basis, but this process may be amended if demand is high. To request a speaker, contact that individual directly. If you have questions about this program, please feel free to contact Dr. Linda Ivany at lcivany@syr.edu.

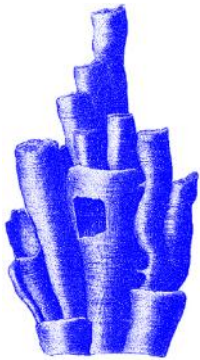
The Society will cover up to \$400 towards travel for a speaker to visit your department

Quantitative Methods in Paleobiology short course reprinted

Due to overwhelming demand, the Quantitative Methods in Paleobiology 2010 short course edited by John Alroy and Gene Hunt has been reprinted and is available for \$25 from the [PRI website](http://PRIwebsite). Additional on-line content remains available at www.paleosoc.org/shortcourse2010.html

2011 Paleontological Society Student Research Grant awardees

The 2011 Student Research Grant competition for 2011 has closed and we are pleased to announce the results of this important program. The committee received 89 proposals this year. Each proposal was evaluated by three committee members using a rubric, and proposals plus their accompanying recommendation letters were ranked by mean and bootstrapped mean scores. Three proposals received an additional, fourth review because of an unusually wide range in scores. The committee then double-checked the borderline proposals qualitatively, and unanimously approved the final ranking.



The Paleontological Society was able to fund 29 applicants (33%). All 89 applicants were notified individually by email on or before April 25, 2011. The list of Awardees and their project title can be found below. The Paleontological Society gratefully thanks the hard work of the dedicated committee members: Nicole Bonuso, Kate Bulinski, David Polly, Matthew Powell, Sara Pruss, Jocelyn Sessa, and David Sunderlin.

Mid-American Paleontology Society (MAPS) Outstanding Student Research Awards

Marie Hoerner (1st place award)
(The University of Chicago)

Dynamics of the Great American Biotic Interchange from stable isotopes, hypsodonty, and microwear

Rachel Brown (2nd place award)
(University of California, Santa Cruz)

Dietary ecology of coastal coyotes (Canis latrans): marine-terrestrial linkages from the Holocene to present

Jonathan Mitchell (3rd place award)
(The University of Chicago)

Ecological controls on morphological evolution: phytosaurs as a case study

Richard K. Bambach Award
Simon Darroch
(Yale University)

Spatial fabric of the Ordovician-Silurian extinction; developing predictive models for biodiversity loss

Arthur J. Boucot Award
Carolyn Levitt
(University of Utah)

Bone histology and growth of chasmosaurine ceratopsid dinosaurs from the Campanian Kaiparowits Formation, Southern Utah

Kenneth E. & Annie Caster Award

Natalie Dastas
(Brooklyn College, CUNY)

Palynomorphs of the Clayton Formation, southeastern Missouri, as indicators of time and deposition through the L-Pg mass extinction event

Matthew Demski
(University of Manitoba)

Ordovician-Silurian boundary interval in the Williston Basin of Manitoba, Canada: bio-, litho-, and chemostratigraphy and faunal turnovers

Joshua Lively
(University of Utah)

The phylogeny and paleobiogeography of Cretaceous baenid turtles

Cory Redman
(Texas A&M University)

Assessing the role of trophic structure in extinction patterns during the Cretaceous-Paleocene mass extinction

Eric Taylor
(University of Utah)
Variation in muscle attachment sites on the hind limb of Alligator mississippiensis

G. Arthur Cooper Award

Denise Weide
(California State University, Long Beach)
Freshwater diatoms as proxy for winter monsoon intensity in Lac Ba Be, Vietnam

Rodney M. Feldmann Award

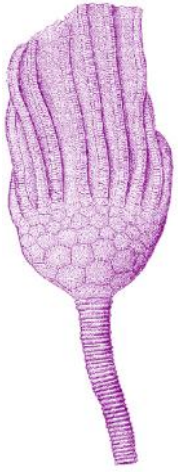
Zachary Kita
(University of Nebraska, Lincoln)
New stable isotope record of ecological change in the late Neogene of the western Great Plains

Steven Jay Gould Award

Sarah Allen
(University of Florida)
The taxonomy, paleoclimate, and paleoecology of a flora from the Eocene Bridger Formation, southwestern Wyoming



2011 Student Research Grant awardees



Steven Jay Gould Award (continued)

Shari Hilding-Kronforst

(Texas A&M University)

Lifestyles of the Hantkeninids

Andrew Zaffos

(University of Cincinnati)

Many niches as one: ordination axes and morphologic variability

N. Gary Lane Award

Paige Kercher

(University of California, Davis)

Determining the effect of ocean acidification on brachiopod shell calcite

Kenneth O'Donnell

(Virginia Tech)

The paleoecology of phytoplankton at the Ediacaran-Cambrian transition and the radiation of modern phyla

Sarah Werning

(University of California, Berkeley)

Bone histology and growth in the largest marsupial mammal, Diprotodon optatum

Richard Osgood Award

Kelsey Feser

(University of Cincinnati)

Delineating the unique effects of different anthropogenic agents on benthic community structure, St. Croix, USVI

Congratulations to all of our awardees and good luck with your research!

Allison R. "Pete" Palmer Award

Melissa Light

(Miami University)

Palynological reconstructions of early Eocene environmental and biotic perturbations in the Wind River Basin, Wyoming, USA

Zhenzhu Wan

(University of Cincinnati)

Carbon isotopic composition and water-use efficiency of Early Devonian to Early Carboniferous land plants

James M. & Thomas J. M. Schopf Award

Michael Meyer

(Virginia Tech)

When the worm turned: new insights into Ediacaran trace fossils through microchemical analyses

Steven M. Stanley Award

Shubhabrata Paul

(University of South Florida)

Selectivity of the late Neogene extinctions in Florida

Robert J. Stanton & James R. Dodd Award

Dana Friend

(University of North Carolina, Wilmington)

Geographic mosaics of variation in predation intensity by naticid gastropods and the evolved defenses in their bivalve prey: a test of the hypothesis of co-evolutionary alternation

Harry B. Whittington Award

Amelinda Webb

(Yale University)

Comparing abundance and biovolume in modern and fossil coral reefs: Applications for conservation paleobiology

Ellis L. Yochelson Award

Andrew Beard

(Syracuse University)

Reconstructing the habitat variability of an enigmatic bivalve from the Permian of Eastern Australia and Tasmania

Mary Kosloski

(Cornell University)

Ecometrics and risk assessment: using a taxon-free technique to assess ecological effects of the Plio-Pleistocene extinction on Busyconine whelks



Student membership

There are many benefits to student membership in the Society, including opportunities for research grants, travel grants, and now even poster awards at Society meetings. Check www.paleosoc.org/students.html for additional benefits. The current student representative is Andrew Haveles (University of Minnesota, haveo118@umn.edu). Thanks to Ryan McKenzie (University of California, Riverside) for his service as out-going representative. And for those of you on Facebook (whether student or not!), keep up on the latest Society news at www.facebook.com/group.php?gid=5775384341.

2011 Student Research Grant awardees

Ellis L. Yochelson Award (continued)

Sharon McMullen

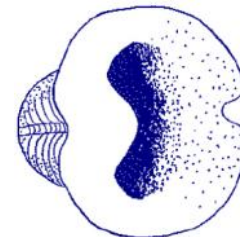
(University of Georgia)

Sequence stratigraphic controls on fossil assemblages in the Middle Jurassic Sundance Formation, Wyoming, USA

Ian Winkelstern

(University of North Carolina, Chapel Hill)

Reconstructing mid-latitude SST and seasonality in the western North Atlantic during Pliocene warm and cool climate states



2010 Student Research Grant awardees

Mid-American Paleontology Society (MAPS) Outstanding Student Research Awards

Hilary Christensen

(The University of Chicago)

The mammalian transition to herbivory in the early Cenozoic

Jenna Judge

(University of California Berkeley)

The effect of past atmospheric oxygen levels on the evolution of phenotypic plasticity in gastropod growth and metabolism

G. Alex Janevski

(University of Michigan)

Resolving crinoid phylogeny across the Permian/Triassic extinction event

Richard K. Bambach Award

Pedro Manuel Monarrez

(California State University, Fullerton)

Examining how communities reassemble after the end-Permian mass extinction

Arthur J. Boucot Award

Mara Brady

(The University of Chicago)

Evaluating the controls on macroinvertebrate skeletal concentrations in carbonate sedimentary records from cratonic interiors versus continental margins



Kenneth E. & Annie Caster Award

David Marjanović

(Université Pierre et Marie Curie (Paris, France) and University of Vienna (Austria))

Phylogeny of the limbed vertebrates with special emphasis on the origins of Lissamphibia and Testudinata

Andrew Haveles

(University of Minnesota)

Resource partitioning of Pliocene and Pleistocene small mammals from the Great Plains, U.S.

Stephen Brusatte

(Columbia University)

Tracking the earliest dinosaurs: fieldwork in the Triassic of Poland

Ryan Felice

(Ohio University)

New Cretaceous turtle fauna from Malawi and Tanzania

Aubrey Shirk

(University of Nevada, Las Vegas)

Paleoecology of late Pleistocene megafauna: stable isotope reconstruction of climate and response

Rodney M. Feldmann Award

Sahale Casebolt

(University of Iowa)

*Determining phylogenetically informative microstructural characters for the scleractinian coral genus *Mycetophyllia**

Steven Jay Gould Award

Mindi Summers

(Scripps Institution of Oceanography)

Ancient DNA extraction from sediments: training in techniques and study of community changes over the past glacial

Felix G. Marx

(University of Otago)

*Morphological diversity and evolution of modern whales (*Neoceti*)*

Joseph L. Reeve

(Sam Houston State University)

Isotope variation in gerbil molars as a tool in paleoenvironmental reconstruction

**The Paleontological Society
is now on Facebook!**

Search for Paleontological Society in Facebook, or click on the Facebook icon



2010 Student Research Grant awardees

N. Gary Lane Award

Chelsea Korpanty
(Cornell College)

Comparative study of Pleistocene and modern reefs of Curaçao: the role of disturbance frequency on reef development

Ashley A Dineen

(University of Wisconsin – Milwaukee)

Regional paleoecology of near-field marine faunas during the late Paleozoic Ice Age

Brian D. Rankin

(University of Calgary)

The phylogenetic relationships of the Didelphodonta (Mammalia; Eutheria): implications for the origination and diversification of living, higher-level mammals

Richard Osgood Award

Tanya del Valle

(University of Cincinnati)

*Can the past be used to predict the future? Comparative growth rates of the reef-building coral *Montastraea* during a Pleistocene interglacial warming period and living *Montastraea* under global warming*

Allison R. "Pete" Palmer Award

Tristan J. Kloss

(University of Wisconsin – Milwaukee)

Adaptive strategies of Cambrian benthic suspension feeders: A sticky situation

Elizabeth Erickson

(Cornell College)

Disturbance maintenance diversity of Pleistocene fossil reef assemblages from Curaçao Island

James M. & Thomas J. M. Schopf Award

Zhenzhu Wan

(University of Cincinnati)

Carbon isotopic composition and water-use efficiency of Early Devonian to Early Carboniferous land plants



Steven M. Stanley Award

Max Christie

(The University of Georgia)

Does ecological change scale with percent extinction? Quantifying the difference between taxonomic loss and functional ecology

Robert J. Stanton & James R. Dodd Award

Adelina E. Prentice

(University of Washington)

Investigating Pliocene warm-water upwelling ("permanant El Niño condition") in littoral communities of Peru, southern California, and Baja California, Mexico

Harry B. Whittington Award

Michael Meyer

(Virginia Polytechnic and State University)

Assessing the implications of regional scale redox fluctuation across the Ediacaran-Cambrian boundary on the Yangtze Platform, China.

Ellis L. Yochelson Award

Matt Jarrett

(University of South Florida)

The lilliput effect: evolution during a crisis

Jacalyn M. Wittmer

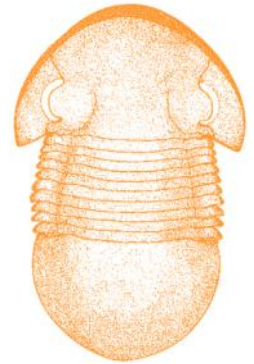
(Virginia Polytechnical Institute and State University)

Spatial distribution patterns of indirect and direct developing gastropods in modern and Pleistocene environments of San Salvador Island, Bahamas

Kwasi Gilbert

(Syracuse University)

Tertiary physeterids (sperm whales) from the Atlantic coastal plain: an investigation of life history and ecology



New DRYAD data repository in progress for JP and Paleobiology

Both the *Journal of Paleontology* and *Paleobiology* are moving toward using DRYAD as a data repository for published research. We will keep you posted as the implementation of this initiative moves forward. For some background perspective, Dryad (datadryad.org) has been developed by the National Evolutionary Synthesis Center (NESCent) and the University of North Carolina Metadata Research Center to provide a permanent, stable, curated, and updated online repository for data that otherwise have no home. Dryad preserves all types of bioscience data that were used in published papers, in a form that is citable, universally accessible, searchable, and reusable. In Dryad, data are linked to the publication in which they originally appeared. Thus, data in Dryad are maintained for future (as yet unknown) uses, yet they retain their original attribution and association. Potential benefits of partnering with Dryad are reduced costs to Society members when archiving data, stable archiving of data, and the ability to satisfy such archival requirements for external grants.

Book review: Biology's first law: A manifesto against physics envy

A review of McShea, D. W. & Brandon, R. N. 2010 *Biology's First Law: The Tendency for Diversity and Complexity to Increase in Evolutionary Systems*. Chicago, IL: University of Chicago Press. 184 pp. \$38.60 cloth/\$14 paper with 30% PS discount
By Phil Novack-Gottshall

Let's face it, biology is tough science! We alone toil with the messy and rampant variation inherent in life's onward march. To the physico-chemical reductionist, each chemical element and physical rule is infinitely unchanged, uniform, and stable. (Admittedly, isotopes exist and the effects of gravity vary under special circumstances, but these remain fully consistent with the basics of chemistry and physics.) These "rigorous" sciences don't have to worry that the boiling point of pure water today depends on what happened to that water overnight. But biology does: the study of change and variation is our *sine qua non*. And it's been a sore point, causing some (especially ecologists!) to conclude that our field will forever lack a firm, irresolute body of theory to rule each and every biological entity, a biologist's companion to Newton's laws.

But such pessimism withers under the elegant idea put forth in Dan McShea and Robert Brandon's

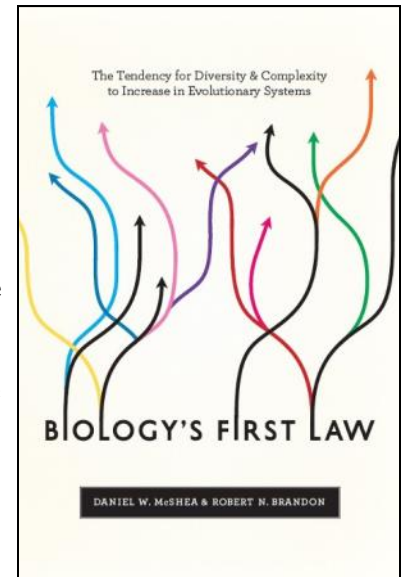
Diversity and complexity are easily produced in nature, they're inherent in anything that reproduces using an imperfect form of reproduction, and we shouldn't be surprised that life is amazingly diverse and complex.

(2010) audacious new book *Biology's First Law: The Tendency for Diversity and Complexity to Increase in Evolutionary Systems*. Some ideas are so intuitively true, so simple and obvious that it takes sharp minds to recognize them in the first place. And that's the case here. The authors argue that our emphasis on natural selection as the cause of diversity and complexity (D&C) is misplaced and potentially erroneous; that D&C are easily produced in nature, that they're inherent in anything that reproduces using an imperfect form of reproduction, and that we shouldn't be surprised that life is amazingly diverse and complex. (They still accept natural selection as the major cause of adaptation.) McShea and Brandon begin by equating the concepts of complexity and diversity as identical aspects of variation, the first as number or differentiation of part types, and the second as the number of or disparity among individuals or taxa. Thus, a prokaryotic cell is less complex (or less diverse in terms of internal subparts) than is a eukaryotic cell. Because this

differentiation arises spontaneously "by the simple accumulation of accidents" (regardless of genetic, epigenetic, or environmental causes) that cause instantaneous variation, and because these variants can be inherited by future generations, the authors logically conclude that all evolutionary systems (i.e., anything with a means of inheritance and variation) have an inherent, driven tendency to become both more complex and more diverse through time. Furthermore, this increase requires no cause (aside from imperfect inheritance, a staple of all life). As the authors note, "in evolution, the expectation in the absence of forces is

change," hence a *bona fide* zero-force evolutionary law (ZFEL). Although this tendency for change is always present (hence its description as biology's first law), the authors emphasize it can be constrained, directed, stabilized, or made adaptive by natural selection or other forces (implying that Darwin's serves as biology's second law.) The authors use a delightful metaphor to demonstrate the relative action of ZFEL and natural selection: a tinkerer's assistant randomly alters what's available while the tinkerer works diligently to improve (ever imperfectly) the assistant's changes. Given that these laws are quintessentially the stuff of biology, perfectly suited to operating within and across different hierarchies, it is ironic that this positioning of laws is opposite that for Newton and his modern counterparts, for whom inertia (a lack of change) remains the background condition and change always demands some force.

Limited review space prevents a thorough discussion of the rich arguments and wealth of examples, implications, and philosophical underpinnings the authors, a paleobiologist (McShea) and philosopher of biology (Brandon) at Duke University, survey to marshal their case, but here's a grab-bag: blind cave animals, developmental constraints and modularity, epithelial skin flaps, fluctuating asymmetry, gene linkage, genetic drift, Hardy-



Review of *Biology's First Law* continued

Weinberg, intelligent design (begrudgingly but deft in showing that complexity is easy and expected), "invariant" lab mice, irradiated mice, living fossils, mass extinctions, Mendelian genetics, morphological disparity, mRNA splicing, orthogenesis (in a positive light), parasites, pseudogenes, rudimentary organs, vertebral complexity, and a bit of Herbert Spencer. It's as synoptic and persuasive as Darwin's *Origin*, but packed in a concise, slim volume.

But two examples are especially relevant here. The first concerns trend mechanisms. McShea (1994) has been an important advocate for the distinction between passive trends (those lacking deterministic causes, often resulting in diffusional patterns) and driven causes (those with particular causation, typically pointing to natural selection). However, here they appear to re-evaluate such arguments (at least with regard to the currency of D&C) claiming that the zero-force (i.e., inherently passive) ZFEL is through-and-through a driven cause, tending for simultaneous increase in minimal, mean, and maximal D&C (or any other metric) within any particular system. (In this light, they argue that stability or decreases in D&C indicate the presence of some oppositional force, such as a constraint, absorbing boundary, or selective disadvantage.) Organismal complexity across the Geozoic (i.e., the history of life; Kowalewski et al., 2011), therefore, does not appear to support their argument for the ZFEL because prokaryotes (the minimally complex life-form) are as non-complex today as they apparently were when they first existed. If the ZFEL acted upon complexity as expected, then the authors contend that organisms as simple as prokaryotes should no longer exist, having long ago given way to more and more structurally complex descendents. The authors



conclude, apparently at odds with their intuition, that there must be developmental constraints or selective forces opposing this complexity-increasing tendency of the ZFEL, at least across the scale of life. (The ZFEL, however, does appear to offer an explanation for why even simpler proto-cells and proto-replicators that likely initiated life itself may no longer exist.)

The second example concerns their interpretation of Phanerozoic taxonomic, morphologic, and ecological diversity (or disparity). From the perspective of ZFEL, McShea and Brandon interpret the vast majority of Phanerozoic large-scale trends as being consistent with the ZFEL. Sure, different forces (such as key innovations, escalatory arms races, ecological specialization, etc.) may

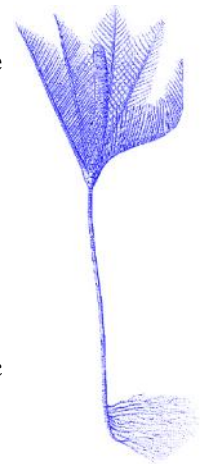
affect different lineages at different times, such that each lineage bears its own unique and distinctive history shaped by selection. But so long as such factors act independently among different lineages, the net effect is a driven increase in the diversity of species, genera, and all other taxonomic groups at all times, unless acted upon by external constraints or shared forces, such as mass extinctions.

Besides a compelling take on basic biological phenomena (and the authors have a zeal for showing how nearly any biological concept easily can be accommodated, nay, even predicted by, the ZFEL) their hypothesis will benefit from additional testing in particular instances. A good place to start for paleobiologists is to pay greater attention to variability itself, especially across different hierarchical units. Disparity and taxonomic richness are frequently used for larger taxonomic units, but less is known within smaller units, say populations and species. The studies of Hunt (2004) and Webster (2007) could serve as useful models for such finer-scale analyses.

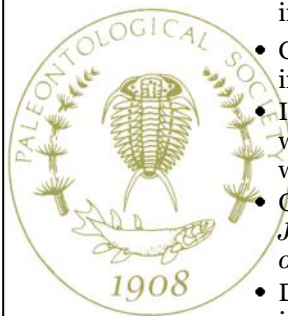
Overall, this slim book is a great read, putting forth an intuitive and elegant case with significant implications that shed new light on all aspects of biology. It should be read by anyone interested in ecology and evolution and their manifestations across any scale of organismal complexity, from molecules and genes to communities and clades. In other words, every biologist should read it! But it should also be read by physicists, chemists and other reductionists, who might better appreciate the unique roles of biological variability and inheritance that makes our science more complicated, more historicist by nature, more hierarchically emergent, and ultimately innately worthwhile of study.

REFERENCES

- HUNT, G. 2004. Phenotypic variation in fossil samples: modeling the consequences of time-averaging. *Paleobiology*, 30:426-443.
- KOWALEWSKI, M., J. L. PAYNE, F. A. SMITH, S. C. WANG, D. W. MCSHEA, S. XIAO, P. M. NOVACK-GOTTSHALL, C. R. MCCLAIN, R. A. KRAUSE JR, A. G. BOYER, S. FINNEGAN, S. K. LYONS, J. A. STEMPIEN, J. ALROY, AND P. A. SPAETH. 2011. The Geozoic Supereon. *Palaos*, 26:251-255.
- MCSHEA, D. W. 1994. Mechanisms of large-scale evolutionary trends. *Evolution*, 48:1747-1763.
- MCSHEA, D. W., AND R. N. BRANDON. 2010. *Biology's First Law: The Tendency for Diversity and Complexity to Increase in Evolutionary Systems*. University of Chicago Press, Chicago, IL.
- WEBSTER, M. 2007. A Cambrian peak in morphological variation within trilobite species. *Science*, 317:499-502.



Being a Society member brings many benefits!



Membership numbers

(updated May 2011)

- Support the advancement of the science of paleontology and understanding of the history of life on Earth through membership in the Paleontological Society.
- Gain cutting-edge knowledge of advances in paleontology.
- Interact and exchange ideas with the worldwide paleontological community while shaping the future of the profession.
- Online access to two premier journals—*Journal of Paleontology* and *Paleobiology*—included with membership.
- Discounted, members-only rates on print journals.
- Receive occasional *Paleontological Society Memoirs* with print subscriptions to the *Journal of Paleontology*, and *Paleobiology Memoirs* and other special publications with print subscriptions to *Paleobiology*.
- Members-only discounts on the *Treatise of Invertebrate Paleontology* and other paleontology books.
- Student research grants opportunities.
- Discounted member rates on publications of the Palaeontological Association (www.palass.org).
- Discounted member registration rates for annual and regional meetings of the Geological Society of America (GSA). Participate in paleontological topical sessions and other programs at GSA meetings.
- Opportunities to participate in North American Paleontological Conventions.
- Participate in supporting the Society's programs, awards, and publications; including:
 - ◇ Student research grants
 - ◇ International research grants to support those in Eastern Europe and republics of the former Soviet Union (PalSIRP Sepkoski Grants)
 - ◇ Student NSF travel grants, solicited and distributed by the Paleo Society
 - ◇ Educational outreach to K-12 children and the general public
 - ◇ ... and more

**Now's the time
to renew for
2011 or 2012!**

Year	Student	Regular	Retired	Emeritus	Spouse	Total
2011	312	881	122	97	9	1,421
2010	295	940	134	89	10	1,468
2009	324	904	141	82	14	1,465
2008	317	944	151	77	17	1,506

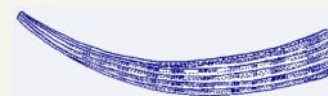


New editorial team takes over *Paleobiology*

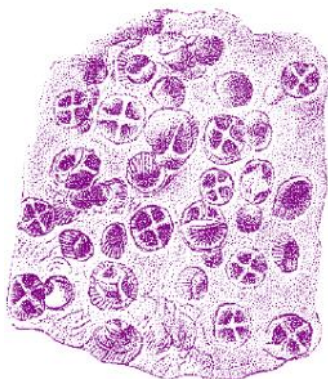
The new *Paleobiology* editorial team took over in January 2011. The editors include Bruce MacFadden, Jonathan Bloch, and Douglas Jones, Assistant Editor Natasha Atkins, and Managing Editorial Assistant Luz Helena Oviedo. Updated instructions for contributors can be found at www.psjournals.org/page/pbio_authors.

The team's goal for *Paleobiology* is "90 days from receipt to decision" for about 75% of manuscripts received. They also hope that most manuscripts accepted by *Paleobiology* are published within about one year from initial receipt. Please do your best to help the team achieve this goal by reviewing manuscripts in a timely manner. And as always, thanks for your contribution to this critical and widely appreciated service!

**Please review
manuscripts in a
timely manner!**



International Research Program (Sepkoski Grants)



The Paleontological Society is pleased to announce continuation and modification of its small grants program for paleontologists living in Eastern Europe and republics of the former Soviet Union. For 2011, the Paleontological Society will award fifteen grants of US \$1000. These grants will be made directly to individuals and not to institutions. Grantees will be selected by a committee of the Paleontological Society based on the quality and feasibility of the proposed re-

search. Consideration will be given to paleontologists of all levels ranging from graduate student research to research by active retirees. PalSIRP Sepkoski Grants are named in honor of Dr. J. John Sepkoski, Jr., founder of the program. Dr. Sepkoski died at age 50 in 1999. Although the deadline for this year's grants has passed, please visit www.paleosoc.org/palsirp.html for details on next year's announcement.

International Research Program (Sepkoski Grants) awardees for 2010

Russia

Alexander Averyanov
(Zoological Institute, St. Petersburg, Russia)
Middle Jurassic dinosaurs of West Siberia

Alexander Bannikov
(Borisnyak Paleontological Institute, RAS, Moscow, Russia)
Marine fishes from the Paleocene/Eocene boundary deposits in the North Caucasus

Yaroslav Ovsepyan
(Geological Faculty, Moscow State University, Moscow Russia)
Late Pleistocene and Holocene environmental changes at the northern Eurasian continental margin: high-resolution analysis of fossil foraminiferal assemblages

**Congratulations
and best wishes for
your research!**

Andrey Sennikov
(Borissiak Paleontological Institute, RAS, Moscow, Russia)
Discovery of the earliest gliding reptiles: weigeltisaurus in the Late Permian of European Russia

Ekaterina Sidorchuk
(Borissiak Paleontological Institute, RAS, Moscow, Russia)
Review and re-description of beetle mites (Acari: Oribatida) inclusions from Baltic Eocene amber



Pavel Skutschas
(Saint Petersburg State University, St. Petersburg, Russia)
Late Cretaceous salamanders of Kyzylkum Desert (Uzbekistan)

Anna Suyarkova
(Russian Geological Research Institute, St. Petersburg, Russia)

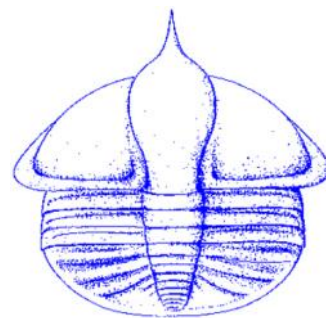
Graptolites across the Ordovician-Silurian transition in the southern Zagros Range, Iran

Zoya Tolokonnikova
(Kusbass State Pedagogical Academy, Novokuznetsk, Russia)

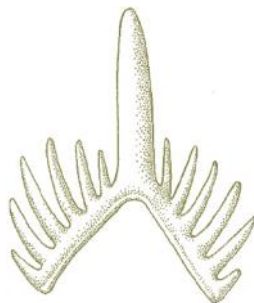
The Famennian-Mississippian bryozoans of the Urals and Russian Platform (Russia)

Valery Vuks
(Russian Geological Research Institute, St. Petersburg, Russia)

Early Triassic (late Olenekian) foraminifers of the Gorny Mangyshlak: evolution of foraminiferal associations and their relation to the paleoecological situation, and correlation with the coeval communities from adjacent territories



2010 International Research Program (Sepkoski Grants) awardees



Ukraine

Tamara Nemyrovska
(Institute of Geological Sciences,
National Academy of Sciences of
Ukraine: Kiev, Ukraine)
*Pennsylvanian conodonts from the
key sections of the Bashkirian?
Moscovian boundary beds in the
Donets Basin, Ukraine: potential*

*candidates for the establishment of the GSSP close to the
Bashkirian?Moscovian boundary*

Helena Sirenko
(Institute of Geological Sciences, National Academy of
Sciences of Ukraine, Kiev, Ukraine)
*Influence of main geological events in the end of the Late
Miocene over the vegetation cover composition in the
platform part of Ukraine and correlation of the various
Upper Miocene facies by palynological data*

Estonia

Peep Männik
(Tallinn University of Technology, Tallinn, Estonia)
*Conodonts in the stratotype of the Llandovery-Wenlock
boundary*

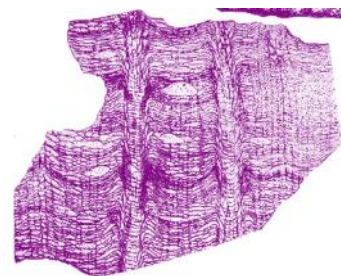
Olev Vinn
(University of Tartu, Tartu, Estonia)
*Evolution of bioerosion in the Ordovician and Silurian of
eastern Baltic*

Slovakia

Barbora Tvarozkova
(Geological Institute, Slovak Academy of Sciences,
Bratislava, Slovakia)
*Bone microstructure as indicator of paleoecological
climatic changes: palaeohistology of Upper Cretaceous
turtles from Alberta, Canada*

Belarus

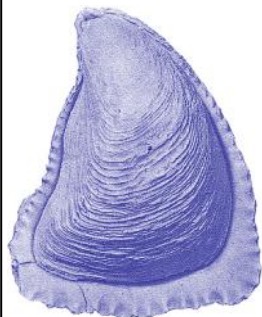
Yury Zaika
(Scientific and Practical Center for Bioresources of the
National Academy of Sciences of Belarus, Minsk, Belarus)
*A comparison of Ordovician
-Devonian Tabulate corals
of the Russian Arctic and
Alaska and their use in
paleobiogeography*



DETELON (Deep-Time Earth Life Observatory Networks) update

By Doug Erwin, Past-President

A Science Planning meeting was held February 2-4, 2011 at the National Museum of Natural History, with about 35 participants (pretty good, considering the winter storms that week). The goal of the meeting was to develop a Science Plan for DETELON (Deep-Time Earth Life Observatory Networks).



The goal of DETELON as a program is to address integrative problems of Earth history in a coordinated fashion to provide better tools towards predicting the behavior of the Earth-Life system. Given current concerns at NSF, it is initially focused on deep-time climate change. It is intended to provide an avenue for larger, inter-

disciplinary deep-time research programs of 5-10 PIs over 5-10 years for field-based work but with significant analytical and modeling components.

After the meeting a Science Plan writing group (Doug Erwin, Dave Bottjer, Catherine Badgley, Tom Olszewski, Paul Koch, Anne Raymond, Dena Smith and Philip Gingerich) met for 2 days, and began drafting the plan, which was submitted to NSF in April.

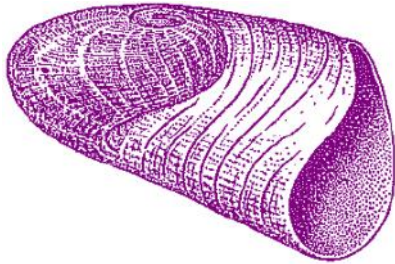
DETELON has already been mentioned in the forthcoming NRC report and in other activities. But success in this sort of effort will require sustained pressure from the community, including PS Officers, in engaging with NSF staff, giving talks at NSF, organizing sessions at GSA, etc. Dave Bottjer and Doug Erwin are developing a DETELON executive committee and hoping to turn over leadership of this initiative to that group.

New Paleosociety Student Ambassador Program (PSAP)

By Sean Cornell, Northeastern Section Chair

Despite our efforts, many college students are still unaware of careers and professional development opportunities in the area of Paleontology and Historical Science. Many are unsure of how to pursue such careers if they are so inclined. The new PS Student Ambassador Program helps in many ways:

- It provides a forum to enhance the training of future paleontologists and science education leaders.
- It creates networking opportunities between students and academic professionals, museum professionals, and government professionals.
- It hosts student competitions or provides a forum for students to grow and develop professional skills.
- It provides a forum for enhancing knowledge of post-baccalaureate & post-M.S. education opportunities.
- It introduces students to service-learning.
- It encourages participation of minorities and underserved students in the geosciences.



Perks of membership:

- Opportunities for networking and resume development at PS events.
- Eligible for selection as Student Representatives to regional PS section councils and/or

national council.

- Participate in PS Ambassador training and/or field experiences.
- Ambassadors will receive a small budget to fund their outreach/program efforts.
- Benefit from opportunities to enhance professional education (i.e. learn about graduate schools, grant writing, cutting edge research, field experiences, etc.).
- Improve communication skills.
- Expand knowledge of geosciences research programs.
- PSA's to be announced in *Priscum* or in one of the other PS journals.
- PSA's ambassadors could receive graduation regalia to wear during commencement ceremonies.

Deadline for application:

June 15, 2011, or until all PS Ambassador positions are filled.

How to apply:

- Applicant must be a full-time undergraduate (junior or senior status) or a M.S. student who is a current student member of the Paleontological Society and is sponsored by a Society member. (Each college/university is eligible for up to two student ambassadors in any given year.)
- Applications must demonstrate potential to contribute to the mission of the Paleontological Society and demonstrate potential for service and initiative for developing professional skills and networking.
- Applications will be reviewed by the PS Education Committee in cooperation with regional PS chairs.
- Please contact Dr. Sean Cornell at Shipensburg University (srcornell@ship.edu) for an application.

The new PS Student Ambassador Program helps promote paleontology while helping train future paleontologists

Paleontological Society

Ambassadors responsibilities:

1. Successful candidates will be expected to complete at least 25 hours of service to the Society per semester (or a total of 50 hours per year). Service could take the form of, but is not limited to:
 - Campus and public outreach activities in face-to-face and online formats (i.e. Facebook, website development, or writing short news articles for *Priscum*),
 - Publicizing/sharing PS mission with schools, universities, public, etc.,
 - Developing programs and events to peers and the public in local region, or
 - Volunteering at national and regional GSA-PS meetings, such as by helping plan displays and staff information booths, promoting PS-sponsored theme and topical sessions, assisting in judging of poster award programs, and/or working under the advisement of their PS-sponsor and regional PS section chair.
2. Participate in meeting activities to expand networking opportunities, such as by attending the PS short course, participating in PSAP Student Field Conference(s), or participating in NAPC, IPC, or other paleontology-themed conferences or events.



Call for nominations for Society Awards

The Paleontological Society encourages members to nominate individuals for the three awards made by the Society:

- **The Paleontological Society Medal**, the most prestigious honor bestowed by the Society, is awarded to a person whose eminence is based on advancement of knowledge in paleontology.
- **The Charles Schuchert Award** is presented to a person under 40 whose work reflects excellence and promise in the science of paleontology.
- **The Harrell L. Strimple Award** is given for contributions to paleontology by an amateur; that is, by a person who does not derive his/her livelihood from the study of fossils. Click [here](#) for additional details.



The deadline for receipt of nominations for each Award is January 15. Nominations received after that date will be held for the next year. Nominations for the Paleontological Society Medal and the Schuchert Award should be sent to the Past President, with a copy to the Secretary. Nominations for the Strimple Award should be sent to the President-elect, with a copy to the Secretary. Nominations will be accepted only as a single PDF file incorporating all nomination material and letters of support.

Nominations should include a letter of nomination, outlining the contributions of the candidate and their contributions to the field. Nominations should include a CV (for the PS Medal and the Schuchert Award) and up to **five** letters supporting the nomination. Nominations will be active for three years after receipt, but may be updated yearly, at the discretion of the nominator.

2009 Journal of Paleontology Best Paper Award

Each year the editors and associate editors of the *Journal of Paleontology* review all the papers published in the previous year's issues to select what they consider to be the best one. This tradition was not completed in time for The Paleontological Society reception at the Geological Society of America annual meeting in Denver in October 2010, but better late than never, we are pleased to announce that "**Reconstructing a lost world: Ediacaran rangeomorphs from Spaniard's Bay, Newfoundland**," written by Guy M. Nar-

bonne, Marc Laflamme, Carolyn Greentree, and Peter Trusler (v. 83, no. 4, p. 503–523), has been chosen for the 2009 Best Paper Award. Two papers selected for Honorable Mention include "**Neoproterozoic microfossils**" (v. 83, no. 2, p. 161–196) by Nataliya G. Vorob'eva, Vladimir N. Sergeev, and Andrew H. Knoll, and "**Solving the mystery of crinoid ancestry**" by Thomas E. Guensburg and James Sprinkle (v. 83, no. 3, p. 350–364). Congratulations to these authors for their excellent contributions!

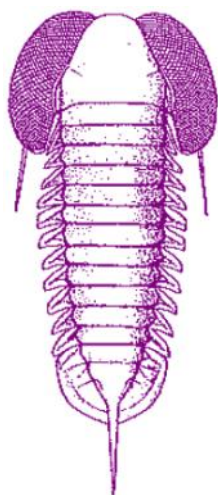


Big thank you to Lisa Park as Office of Secretary is transferred to Mark Wilson!

Because Lisa Park Boush is currently serving as Program Officer at The National Science Foundation, she is transferring her duties as Society Secretary to Mark A. Wilson at The College of Wooster effective immediately. Dr. Park deserves many accolades for her capable service and leadership on behalf of the Society. And thanks to Dr. Wilson for stepping up to this important position!

PS-sponsored sessions at national GSA Meeting, 2011

The PS representatives on GSA's Joint Technical Program Committee for 2011 are Matthew Clapham and Caroline Stromberg. There will be 14 topical sessions with Paleontological Society sponsorship, including:



T50. Applications of bio- and chemostratigraphy to sequence stratigraphy (Alicia C.M. Kahn, Douglas McCarty, Miriam E. Katz)

T51. Phanerozoic palynology: applications to stratigraphic, paleoenvironmental, and paleoclimatic research (Francisca E. Oboh-Ikuenobe, Lanny H. Fisk, Debra A. Willard)

T52. Species and speciation in the fossil record (Warren D. Allmon, Margaret M. Yacobucci)

T53. The Triassic: turning point for Phanerozoic life (David J. Bottjer)

T54. Multidisciplinary approaches to studying the causes and consequences of mass extinction: geochemistry, paleoecology, and paleoenvironments (Marc Laflamme, Simon A.F. Darroch)

T55. New horizons in Precambrian palynology and paleobiology (Paul K. Strother)

T56. From organic detritus to coal: tracing the terrestrial decomposer community in permineralized peat, lignite, and coal (Jen O'Keefe, Anne Raymond)

T57. Hard substrate (sclerobiont) community ecology and evolution through mass extinctions (Paul D. Taylor, Mark Wilson)

T58. Whole organism paleoecology: exploring ecology through time (Amelinda E. Webb, William Ausich)

T59. New ideas on studying exceptionally preserved fossils: what to do next? (Jih-Pai Lin, Alison Olcott Marshall, Craig P. Marshall)

T60. Lessons from the living: paleontological investigations using modern analogs (Daniel I. Hembree, Jon J. Smith, Brian F. Platt)

T61. Phylogenetic approaches to paleobiology: diversity, rates, and trends (David W. Bapst, Emily A. King)

T62. Frontiers in foraminiferal research: implications for interpreting the past, understanding the present, and predicting the future (Pamela Hallock, Susan T. Goldstein)



T66. Advances in terrestrial paleoclimatology and paleoecology: geochemical techniques and examples using inorganic and organic molecules in fossil soils, plants, invertebrates, and vertebrates (Celina Suarez, Samuel Matson, Aisha Al-Suwaidi, Patrick Wheatley)

Society Short Course at GSA Annual Meeting is on reefs

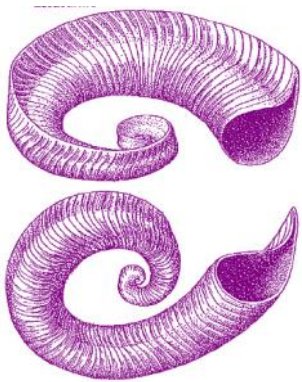
The Short Course for the 2011 GSA Annual Meeting in Minneapolis will focus on "Coral and Reef Crises: Collapse and Change" and is organized by George Stanley. It will occur 8:00 AM to 5:00 PM on Saturday, October 8, 2011. There is an exciting slate of speakers and topics planned.

Coral reefs are one of the most important and long-lived tropical ecosystems. Today global change is affecting corals and reefs and projected changes for the near future are dire. Paleontology has the perspectives to look deeply into the past. What new knowledge comes from the fossil record? This short course will address coral and reef evolution from the Late Precambrian to Holocene time, examining the transitions experienced by ancient reefs and corals during tumultuous changes associated with mass extinctions and global change. The main focus will be on how corals evolved to become important reef contributors and their relationships during the Phanerozoic counterparts as well as to non-coral reef builders such as sponges, algae and mollusks.

Crowdfunding paleontology

By Roy Plotnick

A recurrent issue is how to raise relatively small amounts of money to fund field and museum research (think of the types of projects the Petroleum Research Fund used to support). I have just learned of one option, known as "crowdfunding" that might work well for many of us. For example, Kickstarter is a web-based company (www.kickstarter.com) that specializes in developing funding for creative projects. Projects are funded by individuals who pledge online (through Amazon) to support them. Similar to Groupon, projects are funded only if a



target commitment of support is received within a fixed period (up to 90 days). Kickstarter's and Amazon's fees, which are about 8-10% of the amount raised, are assessed only for successful projects. As an example, I recently backed an artificial intelligence/computer game project which had hoped to raise \$27,000 and recently passed \$48,000. Supporters of a project do not receive any

form of ownership or control. Instead, they get "backer rewards," which are usually things produced by the project itself. It's up to the project creator to create, price, and fulfill their rewards. According to our contact at Kickstarter, paleontological research could "potentially work on Kickstarter if they're framed as creative projects. In other words, a lot of what can work for Kickstarter has to do with how you approach what you're looking to do, and how actively you engage your audience through your project and rewards. In terms of category, your best bet would be to try and find the category that comes closest to encompassing what you're looking to do. So collecting fossils may not seem like an obvious "art", "photography", or "journalism" "writing/publishing" project, but if your research results in rewards for backers that include images or diagrams of fossils, or written research/publications, then it would make sense to place them in the corresponding category."

Another crowdfunding site with a creativity focus is RocketHub (www.rockethub.com). We are a creative field with creative people! Why not give it a try?

**We are a
creative field
with creative
people!**

Congratulations to the 2010 PS Poster Award recipients

First Place

Daren A. McGregor
(Colby College)

*Paleontologic analysis of the Waccamaw
Formation at Neils Eddy Landing, Acme, North
Carolina*

Second Place

Patrick Ryan Getty
(University of Connecticut)

*Sand pseudomorphs of
dinosaur bones:
implications for (non-)preservation of skeletal
material in the Hartford Basin, USA*



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Bryan Hibbard
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The Paleontological Society
P.O. Box 9044
Boulder, CO 80301
E-mail: bhibbard@geosociety.org

Congratulations to David Jablonski on election to National Academy of Sciences

Congratulations to University of Chicago paleontologist David Jablonski who was elected Spring 2010 to the National Academy of Sciences in recognition of his distinguished and continuing achievements in original research. Jablonski's research focuses on macroevolution, mass-extinctions and their long-term consequences, diversification in time and space, and the origin of evolutionary novelty. He has published more than 100 scientific papers, book chapters, and edited books.



Aside from being awarded Fellowships from the Guggenheim Foundation in 1999 and the American Academy of Arts and Sciences in 2000, his achievements were previously recognized by the Paleontological Society with the 1988 Charles Schuchert Award for paleontologist under the age of 40 whose work reflects excellence and promise in the science of paleontology .

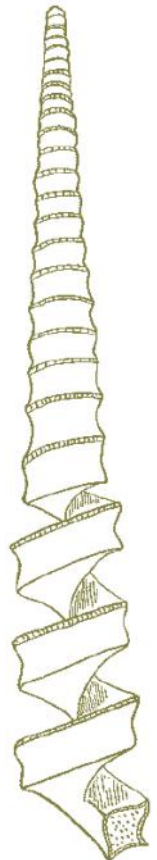
(Modified from University of Chicago [press release](#).)



Request for GSA presentations dealing with modern and fossil organismal interactions

If you are considering attending GSA this year in Minneapolis, Dr. William I. Ausich and I would like to draw your attention to the topical session "Whole organism paleoecology: exploring ecology through time." This session is co-sponsored by the Paleontological Society and GSA's Geobiology and Geomicrobiology Division. In previous years at GSA, presentations containing both modern and fossil ecological data have been scattered across multiple technical sessions (environmental change, predation, geochemistry, paleoecology/taphonomy, etc.). We hope this session will provide a venue to centralize the presentation of this type of research, facilitating the interaction between researchers with similar questions.

We encourage researchers to submit abstracts focusing on organismal interactions at the community or system level, ranging from predation to competition to community composition to the evolution of ecosystems. Modern ecosystems are relatively easily monitored, providing ample information and opportunity for experimentation, where fossil ecosystems provide an important temporal dimension not available to modern studies. Traditionally, paleoecologists have collected modern data as an analogue for ancient systems, illuminating modern patterns and then exploring the fossil record for similar or different patterns. However, the discipline of paleontology has matured sufficiently so that information gathered in the fossil record may define unique systems. The fossil record may help to clarify modern patterns and to make predictions about biological response to various environmental changes. Examples of appropriate projects may include comparisons of modern and fossil systems, use of past systems to provide predictions for modern and future systems, studying changes through time in past systems and/or exploration of modern analogues. Mass extinctions and intervals of environmental change or stasis may provide useful frameworks for examinations of ecology through time. Our intention is to host a topical session that incorporates a broad range of ecological studies, with the theme of studying change through time, especially in the context of modern and ancient comparisons..



Sectional news and updates

Southeastern Section

By Ronald Lewis, Section Chair

The Southeastern Section had a number of very successful activities at the SE GSA meeting in Wilmington, N.C., in March, including a symposium on significant fossil sites in the region, two topical sessions, and a post-meeting field trip. Thank you to all of the presenters, organizers, session chairs, and field-trip leaders who made this possible, particularly those of the host institution, the University of North Carolina at Wilmington! The Paleontological Society booth was open for business both days, resulting in sales (eight publications) and new members. As something new, we had a raffle for student members consisting of a drawing for a P.S. book of their choice, resulting in two additional new members. Three students were given \$200 travel grants (four new members), and four students won \$50 awards for their posters. Thanks to all of the judges who helped with this. At the business meeting, incoming section Chair Tony Martin lead a discussion of possible activities at next year's meeting in Asheville, North Carolina, getting us off to a good start at preparing for another successful year.



As was done this year, the SE section will continue presenting student travel grants and prizes for the best student posters. I am pleased to see that we have received several times the number of applicants for the travel grants this year compared to last year, with membership in the Society a stated requirement for the grant.



Thanks to those who organized and participated in the following successful symposia, topical sessions, and field-trips:

- “Significant fossil sites in the southeast: why they are important and how they contribute to our knowledge of the fossil record” (Symposium organized by Sandy Ebersole and Melanie Devore)
- “Micropaleontology of the southeast” (Topical session organized by Ronald Lewis and Steve Culver)
- “Macropaleontology of the U.S. Coastal Plain” (Topical session cosponsored with the Paleontological Research



Institution and organized by Patricia Kelley and Gregory Dietl)

- “Plio-Pleistocene stratigraphy and paleontology of southeastern North Carolina” (Fieldtrip cosponsored with the National Association of Geoscience Teachers and led by Greg Dietl, Lauck Ward, and Patricia Kelley)

Rocky Mountain Section

By Forest Gahn, Section Chair

The combined Cordilleran/Rocky Mountain section meeting of the Geological Society of America was just held in Logan, UT. There were two paleo-related sessions. The most noteworthy session addressed the mammalian fauna of Utah, and included about a dozen abstracts. The other was a general paleontology and paleoclimatology oral session with six abstracts. In addition, there was a poster session that included about six paleontology-related abstracts and another with three undergraduate abstracts (in a special undergraduate session).

Kudos to Forest Gahn (BYU-Idaho) for his years of service as he completes his responsibilities as outgoing Section Chair!



Sectional news and updates

North-Central Section

By Karen Koy, Section Chair

One theme session was submitted for the joint meeting of the North-Central/Northeastern GSA Meeting held in Pittsburg, PA. *Advances in arthropod paleobiology* was organized by Carrie Schweitzer and Rod Feldmann. We also held a student poster contest and a fun social hour, which was also co-funded by the PS, SEPM, and GSA. The North Central Section Constitution is in the process of being updated to clarify the duties and duration of appointment for Section Officers. We are also continuing to develop a Student Representative for the section. Finally, hats off to Katherine Bulinski (Bellarmine University) for her service as past Section Chair!



Members of the North-Central PS celebrate during the 2010 sectional meeting in Branson, MO

Naut your typical cake, but with all the usual *pompilius* and circumstance!



No back-log at *JP*

Co-editors Brian T. Huber and Brian R. Pratt are happy to report that there is currently no publishing back-log for articles at the *Journal of Paleontology*. Credit is also due to the prior editors Stephen Westrop and Richard Lupia and the many reviewers who submitted timely reviews.

Request for GSA presentations

Marc Laflamme and Simon Darroch would like to draw your attention to a 2011 GSA topical session entitled, "Multidisciplinary approaches to the causes and consequences of mass extinctions: geochemistry, paleoecology, and paleoenvironments" (with support from the Paleontological Society). Studies have shown that extinctions can be recognized and correlated in the geological record by the size and timing of isotopic excursions, depletions in species richness and community metrics, and even as changes in regional-scale sedimentary regimes. These various data suggest a tight coupling between the geosphere and biosphere during intervals of mass extinction, and demand a sophisticated multidisciplinary approach in order to determine the cause and effect surrounding the relative timing of geochemical, paleoecological and sedimentological signals. The organizers look forward to receiving abstracts tackling various aspects of mass extinction research.

National Science Foundation Update

By Rich Lane, Lisa Park Boush, and Paul Filmer, Program Officers, Sedimentary Geology and Paleobiology (SGP)/EAR/GEO/NSF

There are a few important developments that researchers applying to the National Science Foundation for support should be aware of in the coming year. First, NSF now has a Data Management Policy (DMP) requirement for all submitted grants. Information on requirements related to the DMP can be found on the NSF website. Further, new funds will be available in FY12 for projects related to the Science, Engineering and Education for Sustainability (SEES) initiative. There will be a NSF sponsored workshop entitled: "Navigating NSF—New Programs and Best Practices" that will be held on Sunday afternoon. This workshop will be focused on all career level scientists and will have specific information about new and continuing programs at NSF.

Upcoming events and deadlines

2011 GSA Annual Meeting

9-12 October, Minneapolis, Minnesota USA

Abstract submission is now open. Deadline for submission is July 26! See <http://www.geosociety.org/meetings/2011/> for details. Registration opens in early June. Early registration deadline is September 6. Due to the Yom Kippur holiday, the 2011 PS Annual Awards Reception and Business Meeting will be on Tuesday, October 11 at 5:30 PM.

Paleosociety Student Ambassador Program (PSAP)

June 15, 2011 or until filled

PS Education and Outreach Grant

June 30 deadline. See <http://www.paleosoc.org/PS-Outreach-Education-Award-Solicitation-2011.pdf> for additional details.

Nominations for Society Awards (PS Medal, Schuchert, & Strimple Awards)

Jan. 15, 2012

Association of Applied Paleontological Sciences

Check <http://www.aaps.net/aaps-grants.htm> for details on individual grants and deadlines

2012 GSA sectional meetings

Northeastern: Hartford, CT, Mar 18–20

Southeastern: Asheville, NC, Mar. 31–Apr. 2

North-Central: Dayton, OH, Apr. 22–24

South-Central: Alpine, TX, Mar. 7–9

Rocky Mountain: Albuquerque, NM, May 9–11

Cordilleran: Queretaro, Mar. 29–31

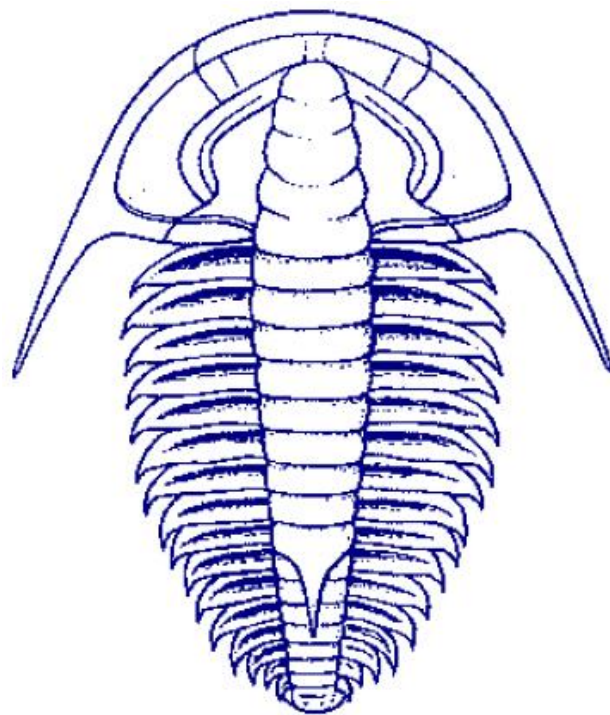
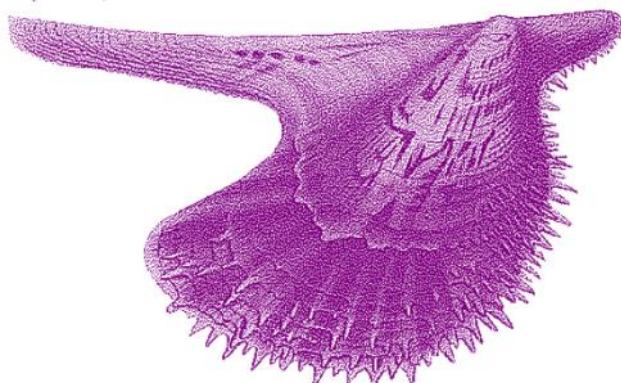
Future GSA annual meetings

2012 - Charlotte, NC: 4–7 November

2013 - Denver, CO: 27–30 October

2014 - Vancouver, BC, Canada: 19–22 October

2015 - Baltimore, MD: 1–4 November



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Co-Editors, *Paleobiology*: Bruce Macfadden, Douglas Jones, & Jonathan Bloch

Editor, *Special Publications*: Sankar Chatterjee

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Southeastern: Ronald L. Lewis

North-Central: Karen Koy

South-Central: Cheryl L. Metz

Rocky Mountain: Forest J. Gahn

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Priscum

Newsletter of the Paleontological Society

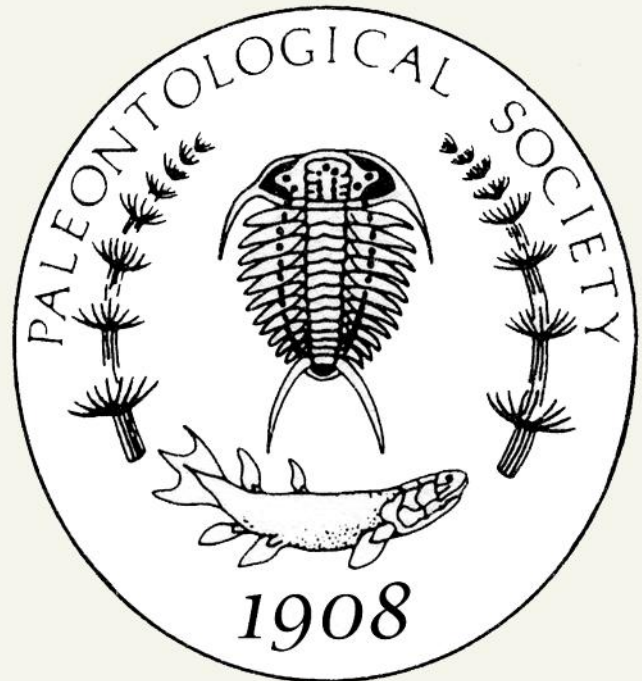
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Request for *Priscum* book reviews and other content

By Phil Novack-Gottshall, *Priscum* editor

Do you have any ideas for content for the *Priscum* newsletter? If so, please contact Phil Novack-Gottshall (pnovack-gottshall@ben.edu). We are interested in including a wide range of content of possible interest to members of our Society. Consider anything from a short description of a future GSA symposium or field trip you are planning to an op-ed sharing a cantankerous viewpoint on a topical issue, an idea for a regular *Priscum* feature, or memorable photos of fossils or fieldwork. Because we are currently in the process of transferring books for possible review, we are also making a special plea for volunteering short (~500-1000 words) reviews of recently published books you have read that might have bearing, even tangentially, on the wide world of paleontology. Informative, informal, and engaging reviews are especially encouraged!

