

GEOSCIENCE NEWSLETTER

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EVENTS

Celebration of Creation in Puerto Rico

GRI scientists Tim Standish and Raúl Esperante participated in a week-end creation seminar at Antillean Adventist University (UAA) in Mayaguez, Puerto Rico, October 19-20, 2012. With six additional speakers from five other institutions, a total of 19 topics were presented.

Some 700 people attended the meetings which were sponsored by the Faith and Science Council of the Seventh-day Adventist Church.

Goshen Conference on Religion and Science

Ben Clausen, Senior Research Scientist at GRI, presented a paper, "Keeping faith in unexpected situations" at the Twelfth Annual Goshen Conference on Religion and Science, March 23-25, at Goshen College, Indiana.

Adventist Theological Society

GRI scientist Ronald Nalin presented a paper at the Adventist Theological Society session during the 64th Evangelical Society Meeting in Milwaukee, Wisconsin, November 14, 2012. The paper was entitled "Similar plan, similar response: The biblical narration of planetary beginnings at creation and after the flood."

Maryland

Tim Standish presented a lecture to a celebration of creation sponsored by the General Conference of Seventh-day Adventists in Silver Spring, Maryland, held November 30-December 1, 2012.

BOOK REVIEWS

John F. Ashton, Evolution Impossible: 12 Reasons Why Evolution Cannot Explain the Origin of Life on Earth. Green Forest, Ark: Master Books, 2012. 196 pages, \$13.99.

John Ashton is a chemist in New South Wales, Australia. His thesis is that the scientific evidence shows that evolution, as currently conceived, is impossible.

Ashton presents four lines of arguments. First, he points out that mutations are not a good candidate for increasing the complexity of living systems through new genetic information. Ashton then summarizes some of the arguments against the theory that life originated spontaneously from non-living materials.

The third group of arguments points out the paucity of possible evolutionary intermediates, and the lack of ancestors for Cambrian organisms. He then presents evidence that suggests the earth is not old enough to provide time for evolutionary processes to account for living biodiversity.

Two weaknesses should be noted. First, the term "evolution" is not clearly defined. This leads to unnecessary confusion over which aspect of evolutionary theory is the problem.

A second weakness is the failure to distinguish between the "genetic code" (which is nearly identical in all living organisms) and "genetic information" (which is different for each species). This also produces some confusion.

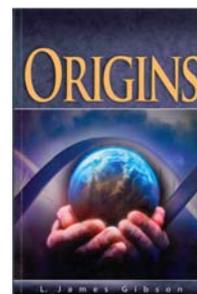
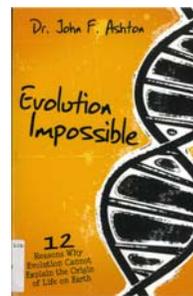
In general, the book is easy to read and understand, and is a useful addition to the creationist literature.

L. James Gibson. Origins. Nampa, Idaho: Pacific Press, 2012. 127 pages. \$13.99

The book, *Origins*, is a companion book for the Bible study guides on creation, prepared for the Sabbath School lessons for first quarter, 2013. The author is the Director of the Geoscience Research Institute, and he writes from the perspective of a biologist.

The book consists of 13 chapters. The first four chapters review the biblical description of creation, noting that the Bible is consistent in its various references to creation.

The second four chapters deal with the problem of evil, its relationship to human morality and to satanic activity. The third four chapters discuss ways in which biblical creation makes a difference in our daily lives and activities. The final chapter describes the relationship of theories of origins to various worldviews. The book will, hopefully, stimulate thinking about the biblical description of origins and its practical implications.



SCIENCE NEWS

Dinosaur Cells

Schweitzer MH, Zheng W, Cleland TP, Bern M. 2013. "Molecular analyses of dinosaur osteocytes support the presence of endogenous molecules," *Bone* 52(1):414-423.

Summary. Fossilized bone tissue from two types of dinosaurs reacted to bird-specific antibodies, demonstrating the presence of dinosaurian molecules in the fossils.

Vertebrate bones contain large numbers of cells known as osteocytes, which function in bone growth and maintenance. Previous studies have found evidence suggesting osteocyte material in dinosaur bone, but chemical confirmation was needed.

Chicken-based monoclonal and polyclonal antibodies were used to test material from two dinosaur species, *Brachylophosaurus canadensis* and *Tyrannosaurus rex*. Tests were also made with sedimentary material surrounding the fossil, and with bone material from an ostrich.

Immunological reactions with the dinosaur bone were positive for the presence of molecules of actin, tubulin, an osteocyte-specific molecule (phosphoendopeptidase), and, even more interestingly, DNA. Control reactions with sediment from around the bones were negative.



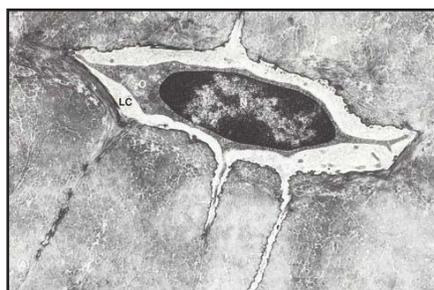
The entoproct, *Barentsia discreta*. Photo by Keisotyo. Used by permission under GNU license. http://commons.wikimedia.org/wiki/File:Barentsia_discreta_suzukokemusi02.jpg.

Iron is present in the preserved material, and might have come from decomposition of hemoglobin in the red blood cells of the dinosaurs. Stabilization by iron may help explain the unexpected preservation of these organic molecules.

Comment. Even in the best of conditions, one would expect complete degradation of such molecules over time periods measured in millions of years. Discovery of preserved biomolecules in dinosaurs suggests the possibility that the fossils are much younger than scientists have previously thought.

Expanding the Explosion

Zhang Z, Holmer LE, Skovsted CB, et al. 2013. "A sclerite-bearing stem group entoproct from the early Cambrian and its implications," *Scientific Reports* 3, Article number 1066. doi: 10.1038/srep01066 Published 17 January 2013. <http://www.nature.com/srep/2013/130117/srep01066/full/srep01066.html>.



An osteocyte. Photo from commons.wikimedia.org.

Summary. Fossil material from the Cambrian Chengjiang deposits of China has been reinterpreted as a member of the Phylum Entoprocta, marking the first time entoprocts have been identified in Cambrian sediments.

Entoprocts are small marine animals, consisting of a stalk attached at the base and crowned with a calyx of tentacles.

The fossil species was named *Cotyledion tylodes* in 1999, but could not be assigned to any taxonomic group. More than 150 specimens are now known, providing opportunity for more complete identification of the fossils. This new identification adds another phylum to the list of those that appear abruptly in Cambrian deposits.

Comment. Cambrian fossils are entirely marine in nature, and seem to represent the remains of an ancient sea-floor community. These fossils may have been buried in place before or at the very beginning of the Genesis flood.



Unidentified cichlid, Nairobi Reptile Park.

How to Speciate Rapidly

Wagner CE, Harmon LJ, Seehausen O. 2012. "Ecological opportunity and sexual selection together predict adaptive radiation," *Nature* 487:366-369.

Summary. Fresh-water fish of the family Cichlidae are noted for their great diversity in the African Rift Lakes. Several hundred species are found only in one or another of the large lakes, especially Lakes Victoria, Tanganyika, and Malawi. Many other African lakes have only a one or a few species of cichlids. This study compared the physical characteristics of 46 African lakes to see which variables correlated with high cichlid species richness.

Three variables emerged as most important in facilitating radiations of cichlid species. Lake depth is the most important physical factor associated with the presence of at least five species in a lake. In contrast, lake surface area was not a good predictor of species diversity. Net energy from sunlight also correlated well with high speciation in these lakes. Sexual color differences were the most important biotic factor associated with speciation. Native predation was not associated with cichlid diversity.

These results suggest that a group's tendency to speciate may be predictable from ecological conditions of their habitat.

Comment. This and related studies may help us understand how a lineage of diverse species might be produced in a relatively short time span. High species diversity may have other explanations in other lineages, but cichlids provide an interesting, and attractive, example for comparison.