

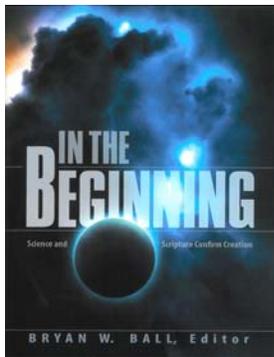
GEOSCIENCE NEWSLETTER

Number 30 July 2012

"IN THE BEGINNING"

In the Beginning. Science and Scripture confirm creation. Ball, B.W., editor. Nampa, ID: Pacific Press. \$18.99. Paper, 270 pages.

In the Beginning is an edited volume of seventeen chapters, written by sixteen authors, on the topic of biblical creation. The majority of the authors are Australian or European, and offer fresh perspectives to the creationist literature. The first ten chapters address issues in biblical studies and theology. The following six chapters deal with the interface of biblical creation and the physical world. The final chapter deals with the problem of theistic evolution theory.



The book is written at a semi-scholarly level, and is well-referenced. The entire book should be read by anyone interested in the topic. If you have time for only one chapter, read the one on Christ and Creation, by William Johnsson. The book should be useful for assigned reading in university courses on the Bible and Science, and also of interest to educated laypeople.

Geoscience Newsletter is an e-publication of the Geoscience Research Institute, 11060 Campus Street, Loma Linda CA 92350 USA. To subscribe, please contact us at newsletter@grisda.org.



Ronny Nalin explains a geological feature in the Dolomites of Italy.

GRI FIELD CONFERENCE FOR SDA LEADERS

Nearly 50 SDA Church leaders and spouses, together with seven GRI scientists, met in Italy from June 25 - July 5 for a field conference on creation and science.

A unique feature of this conference was a visit to the University of Padova, where Galileo Galilei taught some 400 years ago. The group also visited the museum of the famous Bolca fossil deposits, observed dinosaur footprints, studied geological features of the Dolomites, and visited the Vajont dam, site of a tragic geological catastrophe in 1963 that killed about 2000 people. Thirty lectures and discussion periods were interspersed among the field ex-



GRI scientists in the Dolomites. L-R: Roberto Biaggi, Ben Clausen, Ronny Nalin, Jim Gibson, Raúl Esperante, Jacques Sauvagnat, and Tim Standish. Photo courtesy of Tim Standish.

cursions, permitting further exploration of issues in creation and science.

Field Conferences such as this provide an opportunity for church administrators to become acquainted with the complex issues in the relationship between biblical creation and materialistic science.

VISIT US ON FACEBOOK

GRI is now on Facebook, at <http://tinyurl.com/dyebn3x>. You will find photos and comments, books of interest, and reactions from readers.

For more extended discussions, GRI now has an updated blog at <http://grisda.wordpress.com>. Recent topics include beauty and intelligent design, and looking through the fossil record.



(L): Tim Standish gave a plenary lecture on Darwinism and human nature at the Bible Conference in Israel. (R): Ben Clausen explains some geological features on a field trip during the Bible Conference.

INTERNATIONAL BIBLE CONFERENCE

GRI scientists presented lectures and led field trips during the Third International Bible Conference, held June 11-20 in Israel.

The Conference was sponsored by the Biblical Research Institute, and attended by over 300 scholars and SDA Church administrators.

CREATION SABBATH

A special Sabbath has been set aside to celebrate creation. Churches are encouraged to incorporate the message of biblical creation in their worship services on October 27. Suggestions and resource materials are available at www.creationsabbath.net.

GRI RESOURCE CENTER

The Peruvian Union University (Universidad Peruana Union, UPeU), in cooperation with GRI, recently inaugurated a Geoscience Resource Center, managed by Dr. Socrates Quispe. The University has been involved in research on fossil whales, and has prepared an excellent display featuring a fossil whale skeleton from the Pisco Formation in southern Peru.



Professor Orlando Poma, curator of the museum at UPeU, and the fossil whale display.

SCIENCE NEWS

Morphological Stasis Amid Molecular Change

Vanschoenwinkel B, Pinceel T, Vanhove MPM, Denis C, Jocque M, Timms BV, Brendonck L. 2012. Toward a global phylogeny of the “living fossil” crustacean order of the Notostraca. *PLoS One* 7(4):e34998. doi:10.1371/journal.pone.0034998.

Summary. Tadpole shrimp are aquatic crustaceans that live in temporary water pools globally. Two living genera are known, differing morphologically. Fossils of both types are known from Mesozoic sediments, indicating a lack of morphological evolution.



Triops longicaudata, a tadpole shrimp from Venezuela. Photo by Steve Jurvetson, commons.wikimedia.org.

Similarities between living and fossil tadpole shrimp are so striking that some fossils have been classified in the same species with living forms.

In this study, DNA sequences of individuals from sixty populations globally were compared. Molecular differences were much less than would be expected if speciation occurred hundreds of millions of years ago. The conclusions are that tadpole shrimp have not changed much since their first appearance, and that living species radiated from a single surviving ancestral lineage during the Cenozoic.

Comment. This is another example of morphological stasis in which living and fossil species strongly resemble one another. Such examples point out two problems needing further study. One of these is the molecular clock problem – differences in DNA sequences may not be reliably associated with time of existence. The other is the disconnect between molecular differences and morphological differences, underlining the need for better understanding of development.

Soft Tissue Preservation

Gaines RR, Hammarlund EU, Hou X, Qi C, Gabbott SE, Zhao Y, Peng J, Canfield DE. 2012. Mechanism for Burgess Shale-type preservation. *Proceedings, National Academy of Sciences* 109:5180-5184.

Summary. The Burgess Shale of British Columbia, Canada is world-famous for the preservation of diverse, soft-bodied organisms. The fossils are

present as carbonaceous films. Similar fossil deposits are found in Cambrian sediments in China and in Utah, USA. The mechanism of preservation of these fossils has been poorly understood.

This report is based on studies of sulfur isotopes and features of the sediments surrounding the fossils. The fossil deposits studied had high proportions of sulfur-34, interpreted as evidence of low oxidant levels in the sediments. Low oxygen levels would reduce bioturbation by excluding the active organisms that move through the sediments. This reduced the rate of decomposition by aerobic bacteria, although anaerobic bacteria would be active. As the organism decayed in situ, it would collapse into a thin layer of organic material. This was preserved by the sediments composed of very tiny clay particles, believed to have been derived from bottom-flowing density currents. Carbonate cementation capping the sediments offered further protection of the fossils. These factors in combination are responsible for preservation of Burgess Shale type fossils worldwide.



A fossil impression of the extinct anomalocarid, *Amplectobelua*, from Chengxiang, China, one of the Burgess Shale-type fossil deposits.

Comment. Soft-tissue preservation is associated with rapid burial in mineral-rich water, conditions that are rare today. Density currents act rapidly to bury organisms, and Burgess Shale type fossils were preserved in water that was more alkaline than today's oceans. These special circumstances made it possible for us to have a glimpse of the biodiversity in the lower part of the fossil record.