



GEOSCIENCE NEWSLETTER

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GRI NEWS

Harold G. Coffin 1926 – 2015



Harold Coffin (left) with Jim Gibson of GRI.

We are saddened by the death of Dr. Harold G. Coffin, on April 25, 2015, in Ranger, Georgia. Dr. Coffin worked for the Geoscience Research Institute from 1964 until his retirement in 1991.

Dr. Coffin published important research on the “fossil forests” in Yellowstone National Park, and the floating trees in Spirit Lake near Mt St Helens. He wrote textbooks, taught courses at the Seventh-day Adventist Theological Seminary in Michigan, and lectured on creation and science in many parts of the world. He will be missed by all who knew him.

GRI ACTIVITIES

Seminars in South America

Drs. Raúl Esperante and Jim Gibson, together with Dr. Judith Ayala of



Raúl Esperante lectures in Bolivia.

Bolivian Adventist University, presented a lecture series on creation and science to a group of more than one hundred teachers and pastors meeting at the University in May.

The previous week, Jim Gibson had presented lectures to another group of teachers meeting at Ecuador Adventist College.

GRI is available to present seminars to other groups of pastors and teachers. For further information, contact us at director@grisda.org.

Teaching in Africa

Dr. Ronny Nalin of GRI taught the course “Issues in Science and Religion” at the Adventist University of Africa



Seminar participants at AUA.

(AUA) in Kenya, in April. More than 60 students, most of them pastors, took the course as part of their advanced training. AUA was established in 2006 to provide postgraduate education in an African context. GRI partners with AUA to teach a class every other year.

Pastors’ Convention in Texas

Drs. Tim Standish and Jim Gibson presented lectures at the quinquennial meeting of North American Division

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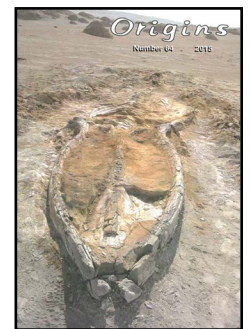
Tim Standish and Dany Schimpf with visitors at the booth in Austin, Texas.

pastors in Austin, Texas. Dr Standish also participated in both English and Spanish programs during which documentaries about the creation were presented to the pastors as a resource for their churches.

Dr. Standish and Dany Schimpf, GRI’s media specialist, prepared and managed an exhibition booth where pastors could get acquainted with GRI and its work. Immediately after the convention, the booth was moved to San Antonio for the GC Session.

Origins 64 Released

The latest issue of *Origins* has just been printed and is available online at: www.grisda.org/resources/origins.



CREATION SABBATH

October 24, 2015 has been designated as Creation Sabbath. Churches and schools are encouraged to feature some aspect of creation during this week and weekend. Suggestions for celebrating creation can be found at www.creationsabbath.net.

SCIENCE NEWS

Dinosaur Tissues



Skeleton of a hadrosaur type dinosaur in the Denver Museum of Natural History. Photo GRI.

Bertazzo S, Maidment SCR, Kallepitis C, Fearn S, Stevens MM, Xie H. 2015. *Fibres and cellular structures preserved in 75-million-year-old dinosaur specimens*. Nature Communications 6, Article 7352, doi:10.1038/ncomms8352.

Summary. Proteins generally break down relatively quickly and are thought incapable of surviving more than 4 million years, although portions of protein molecules might survive longer. Surprisingly, evidence of collagen fibres and red blood cells were found in samples taken from 8 dinosaur bones, including a theropod claw, hadrosaurid bones and unidentified dinosaur rib fragments. The organic material was detected using sensitive techniques such as scanning electron microscopy and mass spectrometry. The collagen appears to retain its quaternary structure, while the fossil blood cells show mass spectra similar to emu blood cells. Such unexpected preservation may open new avenues of research into the biology of dinosaurs and other extinct organisms.

Comment. Scientists are increasingly realizing that many kinds of biomolecules, and even some microstructural features, have been preserved in the fossil record. This seems plausible in a short chronology as advocated by creationists, but is so unexpected in conventional long chronology thinking that some scientists have rejected reports of such preservation on philosophical grounds. As such evidence continues to accumulate, it seems appropriate to

reevaluate the evidence commonly used to support the inference of deep time.

Kernel Genetics

Wang H, Studer AJ, Zhao Q, Meeley R, Doebley JF. 2015. *Evidence that the origin of naked kernels during maize domestication was caused by a single amino acid substitution in *tga1**. Genetics 200(3):965-974, doi:10.1534/genetics.115.175752.

Summary. Maize (corn) is believed to be derived from teosinte, a plant native to Mexico. Teosinte kernels are arranged on a stalk and encased in a hard, inedible shell, while maize kernels are soft and arranged on a central cob. Genetic analysis has shown differences between teosinte and maize in six genomic regions, one of which is the *tga1* locus on chromosome 4. In teosinte, the 6th amino acid in the *tga1* gene is lysine, whereas in maize it is asparagine. This single difference changes the protein produced by *tga1* from regulating development of the hard shell covering the kernel in teosinte into a transcriptional repressor with effects on kernel growth and shape of the maize plant.

Comment. Although teosinte and maize appear dramatically different, they are very similar genetically and can be crossed. Evidently, a few specific genetic changes, perhaps about six, are sufficient to explain the differences. Under strong directional selection, such changes can come about in a few hundred years or less. Such examples refute the common idea that changes in species require millions of years.



Teosinte (*Zea* sp.), the wild ancestor of maize (*Zea m. mays*), from the Etnobotanical museum, Oaxaca, Mexico. Photo credit Bernardo Balaños, CCbySA3.0.

How Incomplete Is the Record?

Nyberg B, Howell JA. 2015. *Is the present the key to the past? A global characterization of modern sedimentary basins*. Geology 43(7):643-646, doi:10.1130/G36669.1.

Summary. Sediments are eroded from higher areas and deposited in basins where they form the basis of the stratigraphic record. Thus, our knowledge of the stratigraphic record is confined to areas occupied by basins. Analysis of the present surface of the earth suggests that basins occupy only 16% of the land area. The rest is uplands that will not preserve a sedimentary record. Worse, 60% of basins are in areas of arid climate, compared to 27% of the



Eroded surface in Canyonlands National Park. Photo by Raúl Esperante.

total land surface. Since arid climates do not produce as much erosion and deposition as more humid climates, the actual extent of the present sedimentary record that will be preserved is biased by climate and basin type. This suggests caution in using the principle “the present is the key to the past” when interpreting the geologic record.

Comment. This study implies that the rock record being formed at present is unlikely to preserve a reliable record of present conditions. If past geological conditions were similar to those of today, we should regard much of conventional geological history with caution. If past geological conditions were quite different from the present, we need a new method of interpreting the past. Local climate and depositional conditions would be less important in a geologic record produced by a catastrophic global flood.