GEOSCIENCE NEWSLETTER

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CREATION SEMINARS

SOUTHERN MEXICO

Part of the group of teachers at the Creation Seminar in Linda Vista University.

Some two hundred biology and Bible teachers assembled at Linda Vista University in Chiapas State, Mexico from October 29 through November 1 for a creation-science seminar. Lectures were presented by Raúl Esperante and Ronny Nalin of the GRI office in the USA, joined by Roberto Biaggi of the GRI office in Argentina and Silvia Torreblanca from Puerto Rico.

Ben Clausen discusses features of the African Rift Valley during the field trip in Kenya.

EAST AFRICA

Two creation seminars were held in East Africa. From November 11-14, a seminar for teachers and administrators convened in Nairobi, Kenya. Ben Clausen and Jim Gibson presented lectures that addressed issues in geology and biology, and their relation to Biblical faith. The seminar featured a trip to the famous African Rift Valley, along with discussion of such issues as plate tectonics, volcanism, and hominid fossils.

A second seminar was held at Bugema University in Uganda, where Drs. Clausen and Gibson presented lectures to some two hundred students and professors.

Some of the science and theology students who attended the creation seminar at Bugema University.

CELEBRATION OF CREATION SABBATH

A "Celebration of Creation" was held in the Loma Linda University Church on Friday evening and Sabbath, October 23 and 24. The meetings were sponsored by the General Conference of Seventh-day Adventists, and were attended by about a thousand people. The program included speakers from the local area, as well as the General Conference, Andrews University Theological Seminary, and Southwestern Adventist University. The meetings concluded on Saturday night with an extended question-and-answer session.

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The next Celebration of Creation weekend is planned for October 22-23, 2010 at Andrews University in Berrien Springs, Michigan.

BOOK REVIEW

Brand LR. 2009. Faith, Reason, and Earth History, *2nd ed. Berrien Springs, MI: Andrews University Press. xii + 508 pages. $64.99.*

The second edition of Leonard Brand's acclaimed and widely used textbook contains significant upgrades, including updated arguments, rearrangement of the content to give a smoother and more logical flow, improved graphics, and an entire chapter dedicated to megaevolution. The new and more convenient size and hardcover binding makes its use in philosophical biology classes more practical. Overall, this new edition of *Faith, Reason, and Earth History* exceeds the high standard set by the first edition, and is a must-have resource, whether used as a text or made available in a library, for all students interested in studying about origins from a Christian perspective.

GEOSCIENCE WEBSITE

Check out our newly formatted website at *www.grisda.org*. The website has the latest news in science and faith, all the articles published in *Origins*, a compilation of articles on science and faith, PowerPoint topics for use in classes, frequently asked questions, and a host of other material. An enlarged Spanish section is available as "Terra & Vita." Other material will be added soon.

SCIENCE NEWS

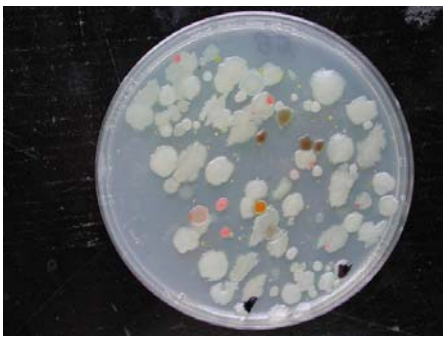
Another Change in the Story

White TD et al. 2009. Ardipithecus ramidus *and the paleobiology of early hominids. Science 326.64, 75-86.*

Summary. This is one of a group of papers published together that report on fossils in the Middle Awash area of the Ethiopian Afar rift, starting in 1994. Accompanying papers describe the fauna and other paleoenvironmental indicators found in association with *Ardipithecus*. The skull of the new fossil was badly crushed and in poor condition, which explains the fifteen years of study required to prepare the report. *Ardipithecus* had a grasping foot and other features indicating good arboreal capabilities. These features are shared with living apes, but not with *Australopithecus* or *Homo*. Differences from living apes include lack of knuckle walking, a shorter "snout", smaller dentition and thinner enamel on the molars. Living apes are now seen as highly specialized rather than representatives of a primitive common ancestor with humans.

Skull of Kenyapithecus, a Miocene ape that had features for knuckle-walking and is thought to be a possible ancestor of all African hominids.

Comment. This fossil discovery has again significantly changed ideas of human origins. The time and effort expended in the reconstruction are highly commendable. Even so, some scientists have raised questions about the interpretation of bipedality. More fossil material is desirable, but it seems that each new fossil hominid discovered is accompanied by a reworking of the evolutionary story.



Bacterial colonies growing on an agar plate.

Beneficial Mutations

Barrick JE, et al. 2009. Genome evolution and adaptation in a long-term experiment with Escherichia coli. Nature *461:1243-1247/9.*

Summary. Genome sequencing was performed periodically over a total span of 40,000 generations of the bacterium, *E. coli*. Sequences from selected generations were compared to detect mutations that arose during the course of the experiment. Bacteria from different generations were compared with the ancestral strain by measuring their growth rates while allowing them to compete for food. The experimental strain out-competed the ancestral strain early in the experiment, but the rate of improvement soon leveled off. In contrast, the rate of mutation remained relatively constant. All the 26 mutations observed during the first 20,000 generations resulted in a change of amino acid sequence — no "synonymous" mutations were observed. This suggests that all the mutations were beneficial. After about 25,000 generations, the mutation rate increased dramatically. By generation 40,000, there were about 600 new mutations, of which about 14% were synonymous.

Comment. The appearance of mutations that were beneficial in the conditions of the experiment should be noted by those who sometimes deny that any mutation could be beneficial. The observed relatively constant mutation rate of non-neutral mutation in the first 20,000 generations was unexpected, but the dramatic increase in mutation rate after generation 25,000 indicates that molecular clocks may not be reliable.

Older Than One's Own Ancestors?

Niedzwiedzki G 2010. Tetrapod trackways from the early Middle Devonian period of Poland. Nature *463:43-48.*

Summary. A "densely trampled surface" with numerous tetrapod tracks and trackways has been discovered in Devonian sediments in Poland. The track makers vary in size, with the largest estimated at more than 2 meters in length. The newly discovered tracks are significant because they appear stratigraphically lower than any tetrapod body fossils, and indeed, lower than the lobe-finned fish postulated as the ancestors of the tetrapods. This discovery "forces a radical reassessment" of the hypothesized evolutionary origin of tetrapods.

Muddy footprints left by a modern tetrapod.

Comment. This discovery is a reminder of the tentativeness of scientific findings, especially in studying historical questions. Only a few years ago (2006) the fossil *Tiktaalik* (named "fish-a-pod") was touted as the evolutionary link between the lobe-finned fish such as *Elpistostege* and the tetrapods such as *Acanthostega*. The stratigraphic sequence matched perfectly with the purported evolutionary sequence, with *Tiktaalik* both morphologically and stratigraphically intermediate between the fish and the tetrapod. The newly discovered trackways show that tetrapods existed before either *Elpistostege* or *Tiktaalik* were fossilized, removing any known lobe-finned fish from the ancestry of tetrapods. Given the history of this topic, this discovery should not be regarded as the last word.