Exploring the History of Life: The Fifth Conference of the Creation Biology Study Group (BSG)

Cedarville University, Cedarville, Ohio
Wednesday 7th June – Friday 9th June 2006

Report by Paul Garner

The Fifth BSG Conference was held between 7th-9th June 2006 on the campus of Cedarville University, Cedarville, Ohio. There were forty-six attendees. I was the only representative from outside the USA. This was the third time I have attended a BSG conference, the previous two being in Tennessee and Idaho. This year a journalist from the *Washington Post* was also present throughout the conference.

Statistical Baraminology Workshop

The day before the conference began there was a Statistical Baraminology Workshop led by Dr Todd Wood. The workshop consisted of three parts:

1. **Introduction.** This consisted of an historical review of the development of creation biology (generally) and baraminology (specifically) from about 1900 to the present day (see inset box 1). There was a particular focus on the contributions of George McCready Price, Harold Clark, Frank Marsh, Walter ReMine and Kurt Wise. The material on the synthesis proposed by Frank Marsh represented a substantial revision of the discussion in Todd Wood's book, *Understanding the Pattern of Life* (Broadman and Holman, 2003).
2. **Calculations and Explanations.** This was an exploration of the methods of statistical baraminology, introducing the concepts of baraminic distance, character relevance, taxic relevance, baraminic distance correlation and multidimensional scaling.
3. **Using BDISTMDS.** This involved a practical look at some sample datasets, along with analyses and interpretations using the software now available on the BSG website (www.bryancore.org/bsg/bdistmds.html). The software makes doing the statistical analyses much easier than before!

The workshop was very helpful in consolidating my understanding of the statistical methods involved and the potential problems that may be encountered. Each participant was provided with a 59-page workbook which will be a useful reference source. Based on the success of this workshop, seminars on other topics are likely to take place alongside future BSG conferences.

Plenary sessions

The conference itself took place over three days. There were three plenary sessions:

1. **Dr Kurt Wise** proposed some baraminological criteria for identifying the Flood/post-Flood boundary in the stratigraphic record. He referred to a previous study which concluded that the Cenozoic horse series represented intrabaraminic diversification after the Flood. By contrast, he suggested that Mesozoic sequences of transitional fossils showing increasing mammal-likeness and bird-likeness in multiple families lacked an explanatory environmental trend and may be due to transitional ecologies in the pre-Flood world.
2. **Dr Roger Sanders** discussed three claimed instances of adaptive radiation in plants – the rosette-tree dandelions and daisies of the Robinson Crusoe Islands and the tree-sunflowers of the Galápagos Islands. He concluded that these radiations were actually non-adaptive and occurred when latent, created information was expressed in small, fragmenting populations that colonized newly exposed habitats after the Flood.
3. **Dr Art Chadwick** explained his ground-breaking research on the taphonomy of a dinosaur bone bed at the Hanson Research Station in Wyoming. His work employs high-resolution GPS data combined with digital photographs of the bones to show the way they look in the ground. The bones form a normally-graded bed in the middle of poorly consolidated clay to mudstone and are associated with a mixture of freshwater, brackish, marine and terrestrial fossils. The bed is interpreted as having been deposited by a density current in relatively deep water. The dinosaurs appear to have been killed *en masse* in a freshwater setting, where they rotted, then the bones were re-suspended and transported into a marine shelf environment. A website about this work can be found here: http://dinodig.swau.edu/the_project/

Research sessions

In addition eleven research papers were orally presented:

1. Dr Todd Wood outlined his research suggesting that the archaeocetes ("ancient whales") are not morphological intermediates between modern whales and artiodactyls (hoofed animals with an even number of toes).
2. Drs John Whitmore and Kurt Wise presented data showing that fossil organisms from the Green River Formation (Eocene) display high disparity but low species diversity and suggested that this is consistent with an early post-Flood age for these Eocene sediments.
3. Jean Lightner presented hybridization data for the Cervidae (deer) that will help to elucidate baraminic relationships.
4. Dr Doug Kennard gave a theological talk on the biblical concept of soul and its holistic meaning of "complete living being". He outlined ways in which this concept provides a framework for bioethics.

Fig. 1 Cedarville University was host to the 5th BSG conference "Exploring the History of Life" © 2006 BSG.

Fig. 2 Dennis Flentge was the moderator for the conference © 2006 BSG.

5. Dr Steve Gollmer spoke about the study and modelling of gene and protein networks. He suggested that static designs are "brittle" in a changing environment and that choice in biological systems points to the volitional activity of the Creator.
6. Dr Joe Francis gave a fascinating talk about the origin of pathogenicity in the bacterium genus *Vibrio*. Most *Vibrio* species are not pathogenic and have symbiotic relationships with other organisms. *Vibrio cholera* has recently been shown to play a beneficial role in chitin recycling.
7. Dr David Fouts spoke about man "as" – rather than "in" – the image of God, focusing upon man as a representative of God commanded to subdue the created order and rule over it as a faithful steward.
8. Isaac Demme argued that purpose and design in living organisms cannot be understood apart from the biblical framework of creation, curse and new creation. He highlighted the ubiquity of post-curse design elements.
9. David Cavanaugh presented a baraminological analysis of fossil and living arthropods. There is a large gap in morphospace separating the arthropods from annelid worms but baraminic boundaries within the arthropod group have yet to be elucidated.
10. Dr Tim Brophy reviewed the available hybridization data for modern turtles. There is evidence of interspecific hybridization in eight of the thirteen extant families but no reported hybridization between families.
11. Jonathan Bartlett spoke about the symmetry between the genome and computer programmes, both of which are designed digital codes, and predicted that meta-programmes would be identified in the genome.

Posters

On Thursday evening there was a poster session with opportunity for more in-depth discussion of several of these research presentations, as well as some that had not been presented orally.

Conference proceedings

The proceedings of the conference can be downloaded from the BSG website: http://www.bryancore.org/bsg/opbsg/008.html

Inset box 1: **What is baraminology?**

The Bible teaches that God created the major groups of organisms separately – and upon this foundation a creationist theory of biology can be built. An early contribution was made by a Christian biologist called Frank Lewis Marsh (1899-1992) who concluded that God had made organisms in groups called 'kinds'. In 1941, he introduced the concept of the baramin – taken from the Hebrew meaning 'created kind'.

The 'created kind' or baramin is not the same as the modern species. Marsh regarded each baramin as a broad group probably encompassing many species. While each baramin had been separately created, Marsh suggested that a great deal of variation was possible within the created group. For instance, he considered all dogs – at least wolves, coyotes, jackals, dingos and domestic dogs – to be members of a single baramin. Finally, Marsh regarded the ability of two organisms to hybridize – i.e. to cross-breed – as evidence that they belonged to the same baramin.

Many creation biologists have taken up Marsh's ideas and endeavoured to build upon them. In recent years, this has led to the development of baraminology – a creationist system of identifying and classifying the created groups. Baraminology has matured into an exciting field of study with its own conferences and publications. The idea is to use many different criteria to 'home in' on the created kinds by looking for similarities and differences. Baraminology does not try to identify each baramin in one go; rather, it works by successive refinement. Larger groups are split up and smaller groups are added to, until all the members of the baramin have been identified. Several groups have already been studied using the methods of baraminology and studies with other organisms are awaiting publication.

A helpful introduction to baraminology and its terminology can be found on the Creation Research Society website:

Frair, W. (2000). Baraminology – classification of created organisms. Creation Research Society Quarterly, 37(2):82-91.

http://www.creationresearch.org/crsq/articles/37/37_2/baraminology.htm

Inset box 2: **Joining the Creation Biology Study Group (BSG)**

The BSG has now become a formal society of professionals in the biological and related sciences or theology who (1) hold or are working towards an advanced degree in a relevant field (exceptions to this are made on an individual basis) and (2) are Christians accepting the authority of Bible (i.e., Old and New Testament canons) in all areas. The group is organized to be a community for mutual encouragement and Christian fellowship to those researchers dedicated to discovering the Creator and the outworking of his design for the present living world. The ultimate goal of the BSG is to develop origin models that accommodate empirical data in a biblical framework of earth history through scientifically sound analysis of biological data and scholarly analysis of biblical texts.

Membership costs $20.00 per year. Enquiries should be directed to Dr Tim Brophy, Associate Professor of Biology, Liberty University, 1971 University Blvd, Lynchburg, Virginia 24502, USA. Email: tbrophy@liberty.edu

Next year's conference

The theme of the next conference will be "All Creation Groans: The Problem of Natural Evil". It will be held between 13th-15th June 2007 at Liberty University, Lynchburg, Virginia. Details will be posted on the BSG website in due course: http://www.bryancore.org/bsg/

Fig. 3 Delegates brainstorming during the poster session © 2006 BSG.

Reflections on the BSG Conference from a newcomer

Jonathan Bartlett

Is there a reliable way to tell the Flood/post-Flood boundary? Are there worldwide stratigraphic markers that tell the limits of Flood geology? What was the post-Babel timeline? What are the causes of fossil sorting in the fossil record? These are the sort of questions I was hoping to have answered at the annual conference of the BSG: A Creation Biology Study Group (formerly the Baraminology Study Group). During the conference, which had the theme 'Exploring the History of Life', there was plenty of time for discussion. While there were not explicit answers to very many of my questions, I feel like I understand the issues much better.

Kurt Wise's talk dealt with the Flood/post-Flood boundary. In it, he suggested a mechanism for telling the Flood/post-Flood boundary that I had not thought about before – using patterns of diversity to help identify the cause of sorting. He suggested we might be able tell the difference between Flood and non-Flood sediments based on the kind of diversity found. Since the Flood is not a time sequence (or at least not much of one), directionalized intrabaraminic diversification should indicate non-Flood sediments, while patterns of diversity across baramins should indicate Flood sediments, with ecological zonation being the primary cause. The idea of using the Flood sequences to partially reconstruct the pre-Flood world is something that I had not considered before. Of course, every idea has its problems, and Kurt pointed to the mammal-like reptiles at the end of the Flood showing what looks to be a post-Flood diversification pattern rather than a Flood diversification pattern. The need for developing a systematic view of the Flood and fossil sequence was painfully obvious by the end.

After the first round of talks, we had several discussions over dinner about the Flood and fossil record, some of which were even more interesting than the research presentations. Among the ideas discussed were whether or not some of the layering of the geological column was formed from precipitation of dissolved material at different temperatures, some of the interesting fossilization patterns in the geological column, and the nature of animal form in the pre- and post-Flood world.

Along the same lines, the talk about the Green River Formation (GRF) was interesting because it gave a glimpse of the nature of animal dispersal and diversification immediately following the Flood. The evidence from the GRF indicated that a huge disparity of organisms had dispersed worldwide almost immediately after the Flood, but that the process of diversification had only just begun.

One of the things that always surprises me about Creationism is how well-developed the theory is considering the small number of people working to develop it. It is often assumed by the public that a theory, once proposed, requires little additional effort. In fact, for a theory to be successful, it requires continual evaluation and refinements, especially if it is competing with already-well-established theories. It was a little disturbing to see how little time and resources creationists have to investigate and develop creationary theory, but on the other hand it is a testament to the validity of the theory just how far it has come with the amount of resources available.

My one big disappointment with the conference was that, for a conference exploring natural history, there was a paucity of geologists and geology talks. This should probably be expected from a biology study group, but nonetheless, it was slightly disappointing.

Fig. 4 Art Chadwick discussing the ongoing work excavating dinosaurs in Wyoming © 2006 BSG.

Giving a talk was quite an experience. Being in computer science, I was very hesitant when the call for papers was posted, yet there was an idea about the relationship between computer science and biology that had been nagging me for some time. I asked a member of the editorial board whether I should submit the abstract, and they encouraged me to do so. After submitting it, the review came back asking for what could be predicted from such a study. I thought, "what on earth can a programmer predict about biology?" I researched one of the examples I had mentioned in my original abstract further, and had an idea. I rewrote my abstract completely and submitted it. To my amazement, it was accepted.

The talk itself spurred on a large amount of discussion with a number of people. Many people had very interesting ideas and applications to go along with my talk. This was precisely what I had come to the conference for – to think about biology in a creation perspective with other people who care deeply for the subject.

The ability to talk intelligently about creationism with people from many different areas of biology who knew much more about the subject than I did was probably the best part of the whole conference. There were no disciplinary turf wars and no looking down on people who are new to the movement. Just a lot of people trying to do science from a Christian perspective, and helping others do the same.

The worst part about the whole conference is the year-long wait until the next one. ■