

The Bushes of Life Model and Human Ancestry in the Light of Genetics Data

A literal reading of the first chapters of Genesis suggests that animal and plant species can be grouped into kinds, such that species within the same kind have a common ancestry, whereas species from different kinds do not. This is often referred to as baraminology. This talk will review some recent genetics and other research on baraminology, the purpose of which is to identify Biblical kinds. Then, we will zoom into human ancestry and give arguments for why humans are their own kind, with a unique ancestry from a first-created human pair.

Ola Hössjer has been Professor of Mathematical Statistics at Stockholm University, Sweden, since 2002. He has done research in statistics and probability theory with applications in population genetics, epidemiology, and insurance mathematics. Hössjer is the author of 110 peer-reviewed articles, he has supervised 13 PhD students, and in 2009 he received the Gustafsson prize in Mathematics. He has published several articles and book chapters on Christian apologetics on topics that relate to fine-tuning in cosmology and biology, information, and genetics (the waiting time problem and human ancestry). He is also the author of *Becoming a Christian* (Wipf and Stock, 2018) and an editor *Biblical Creation on Solid Ground. Arguments from Science, Philosophy, and Theology* (STH Academic 2023). He has two daughters and one son-in-law, and he is a member of a local church in Sollentuna (Stockholm Vineyard).

1. The bushes of life model (or baraminology)

A. Definition of the bushes of life model

Common ancestry within each group but not between groups
Examples of groups

B. Biblical motivation

Genesis 1:11–12,21–22,24–28, 2:18–23, 6:18–7:9
Plants and animals created after their kinds (discontinuity between kinds)
With a command to multiply and fill the earth (requires adaptation)
Humans a kind of its own
Adam was able to name all animals (humans are able to distinguish kinds)
Kinds of land animals experienced a severe bottleneck (Flood of Noah)

C. The three major goals of baraminology

- 1) Identify created kinds (or baramins)
- 2) Find the mechanisms of divergence and speciation within each created kind
- 3) Find the ancestral history of each created kind

D. Taxonomy and relation to evolutionary model

2. A brief history of the bushes of life model

Species fixity or variation within created kinds?

Carl Linnaeus allowed for variation within kinds in the 1700s

Charles Darwin equated creationism with species fixity Origin of Species 1859

Many creationists of the early 1900s believed in variation within kinds

3. Goal 1: Identification of created kinds

A. Hybridization

B. Find morphological and molecular characters that distinguish kinds

1. Cognitum (human senses) analysis
2. Statistical baraminology analysis
Handles genomewide data, with sequence alignment
Potential use of ancient DNA

4. Goal 2: Find the mechanisms of divergence and speciation within each created kind

A. Created variation within kinds

This variation is designed in order to provide rapid and targeted response to environmental changes

1. Created heterozygosity
2. Essential and redundant elements
3. Variation-including genetic elements (VIGEs)
4. Inbuilt epigenetic mechanisms

B. Mechanisms of change within created kinds

These mechanisms are either designed (to allow for rapid adaptation) or random

1. Genetic drift and founder effects
2. Hybridization
3. Mutations
4. Natural selection
5. Crossovers and meiotic drive
6. The action of VIGEs
7. Epigenetic changes
8. Developmental system plasticity

5. Goal 3: Find the ancestral history of each kind

A. Biogeography (geography and demographics)

Plate tectonics and continental drift
Debris rafting model

B. Genetic ancestry

Mitochondrial DNA for female ancestry
Y-chromosome DNA for male ancestry
New updated mutation rates lead to recent ancestry of created kinds

6. Case study: Humans – do we form our own created kind?

A. Statistical baraminology studies

Reveals humans as its own created kind

B. Analysis of autosomal (non-sex chromosome) DNA

Consistent with humans descending from a first couple

C. Analysis of mitochondrial and Y-chromosome DNA

Consistent with women descending from Eve 6000 years ago
Consistent with men descending from Noah 4500 years ago

7. Conclusions

The study of created kinds has recently acquired
lots of molecular data (genomewide data, ancient DNA, ...)
many new tools (statistical baraminology, sequence alignment,
...)

Data show clear patterns of grouping into kinds (but still a lot of work remains)

Designed mechanisms allow for quick adaption within kinds

Analysis of mitochondrial & Y-chromosome DNA reveal recent ancestry of each kind

Prediction: Future research will continue to strengthen the buses-of-life model

Further reading:

Hössjer, Ola and Samuel Lampa (eds). *Biblical Creation on Solid Ground. Arguments from Science, Philosophy, and Theology*. Uppsala, Sweden: STH Academic, 2023.

Jeanson, Nathaniel T. *Recent, Functionally Diverse Origin for Mitochondrial Genes from ~2700 Metazoan Species*. *Answers Research Journal* 6, (2013):467–501.

Jeanson, Nathaniel T. and Ashley D. Holland. *Evidence for a Human Y Chromosome Molecular Clock: Pedigree-based Mutation Rates Suggest a 4,500-year History for Human Paternal Inheritance*. Answers Research Journal 12 (2019), 393 – 404.

Jeanson, Nathaniel T. and Jason Lisle. *On the Origin of Eukaryotic Species' Genotypic and Phenotypic Diversity: Genetic Clocks, Population Growth Curves, and Comparative Nuclear Genome Analyses Suggest Created Heterozygosity in Combination with Natural Processes as a Major Mechanism*. Answers Research Journal 9, (2016):81–122.

Lightner, Jean, K., and Matyas Cserhati. *The Uniqueness of Humans is Clearly Demonstrated by the Gene-content Statistical Baraminology Method*. Creation Research Society Quarterly 55, (2019):132–141.

Lightner, Jean, K., Tom Hennigan, Georgia Purdom, and Bodie Hodge. *Determining the Ark Kinds*. Answers Research Journal 4 (2011):195–201.

O'Micks, Jean, M. *Baraminology Classification Based on Gene Content Similarity Measurement*. Creation Research Society Quarterly 54 (2017b):27-37.

Wood, Todd C. *The Current Status of Baraminology*. Creation Research Society Quarterly 43, no. 3 (2006): 149–158.

Thompson, C., and Todd C. Wood. 2018. *A Survey of Cenozoic Mammal Baramins*. Proceedings of the Eighth International Conference on Creationism, ed. J.H. Whitmore, 2018, pp. 217–221, A1-A83 (appendix). Pittsburgh, Pennsylvania: Creation Science Fellowship.