

For the purpose of identifying the number of animals needed for the Ark, Woodmorappe equates the taxonomic unit of the genus to the 'kind', which in most cases is likely to be conservative (that is, giving an overestimate of the number of kinds on the Ark). By considering which animals were clean or unclean, John calculates that 16,000 animals were on the Ark, including dinosaurs (the young of the largest dinosaurs would do just fine). Interestingly, seabirds need not have been on the Ark, but John includes them anyway. From a body-mass analysis of all these animals, Woodmorappe finds that the average size is that of a small rat! This in-depth calculation makes Whitcomb and Morris's¹ size estimate of a sheep quite conservative.

Sixteen thousand animals, averaging the size of a small rat, is quite manageable, as John shows in detail, by eight people who were intelligent. Woodmorappe describes various methods for caring for the animals, providing food and water, and waste disposal. Such esoteric but important questions as ventilation, heat management, and lighting are dealt with. Chapter 13 on feeding challenges for animals with specialised diets is a good example of

multiple, reasonable possibilities for several frequently-asked questions.

Woodmorappe dedicates seven chapters to questions on how aquatic organisms could have survived the Flood outside the Ark and the recovery of the biosphere after the Flood. For instance, some questioners wonder how plants could have grown in salty soil, left over from the Flood. This is one of the topics in Chapter 19. The amount of salt in the soil, of course, is open to question, but the problem has an easy solution. Salt can be readily leached out of the soil by rainwater.

The non-biologist in me had trouble with the fourth part of the book — the adequacy of single pairs of animals to repopulate the earth. A glossary for quick reference to technical biological definitions would have been handy. This part is directed towards a whole series of questions of whether there was enough genetic potential to repopulate the whole Earth from single-pair founders. John gives us a lot of possibilities for that past event, but it seemed to me as I was reading this part, that scientists do not know enough about genetics to even question whether Christians have a problem here. Scientists, including creationists, do not know exactly what is a potentially interbreeding unit (the

'kind?'). That is why John can offer rapid 'speciation' as a viable solution for repopulating the Earth after the bottleneck of the Flood. (I wish we could use a different word for speciation because the word carries a lot of 'baggage' and causes some to accuse creationists of believing in evolution that is, macroevolution!²)

I highly recommend this book for all Christians who want to defend their faith with reasonable arguments against one of the most attacked parts of the Bible — the adequacy of the Ark. Not only are there simple solutions to many problems, but also with regard to difficult questions, there are reasonable possibilities. It helps to be a possibility thinker.

REFERENCES

1. Whitcomb, Jr., J. C. and Morris, H. M., 1961. **The Genesis Flood**, Baker Book House, Grand Rapids, Michigan, pp. 65-69.
2. Ross, H., 1994. **Creation and Time**, Navpress, Colorado Springs, Colorado, pp. 73, 83.

Editor's Note: A Comprehensive Study Guide to **Noah's Ark: A Feasibility Study** is now available on the Internet (<http://earth.nettrek.net.au/~rik/cyber/faqark.htm>).

QUOTABLE QUOTE: Peer Pressure in Science

'Outsiders to the research community need to provide criticism on the fundamental issues, because debate within that community operates within definite limits. Scientists are highly vulnerable to peer pressure because their careers depend on favorable peer reviews. To become a scientist at all requires satisfying dissertation and appointment committees. Thereafter, professional standing depends on one's ability to satisfy the anonymous referees who decide what is to be published in journals and the study groups that decide what projects are to be funded. The system of peer review has important virtues, but it means that even a very esteemed scientist who goes too far in criticizing fundamental assumptions can be effectively excluded from the research community. (I have personally seen this happen.)'

Johnson, Phillip E., 1995. **Reason in the Balance: The Case Against Naturalism in Science, Law and Education**, InterVarsity Press, Downers Grove, Illinois, pp. 95-96.