

the types of transgene constructs one might generate in order to address a specific question using a particular strategy, the reader should be cautioned not to expect such information to be of practical value. However, this text is very current — discussing the most topical issues such as the cloning of Dolly through nuclear transfer. This being the case, a brief discussion of spermatogonial transplantation as developed by Brinster and coworkers (e.g. Brinster & Avarbock, 1994; Brinster & Zimmerman, 1994; Brinster & Nagano, 1998; Ogawa et al. 2000), which offers tremendous potential for transgenesis especially where large mammals are involved, would have made this outstanding text complete.

Overall, John Bishop's *Transgenic Mammals* is an excellent textbook that provides a thorough account of what is known about transgenesis, and the included material represents work at the cutting edge of a field which has become fundamental to our understanding of mammalian biology.

## References

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**Fundamentals of Molecular Evolution (2nd edn).** Dan Graur and Wen-Hsiung Li. Sinauer Associates Inc., Sunderland, MA. 2000. Pp. 481. Price £27.95, paperback. ISBN 0 87893 266 6.

This book has an interesting history. In 1991 Wen-Hsiung Li and Dan Graur published the first edition of *Fundamentals of*

*Molecular Evolution*. It was followed some six years later by *Molecular Evolution*, a book written by Wen-Hsiung Li; this was essentially a considerably extended and updated version of *Fundamentals*. And now we have the official second edition of *Fundamentals*, with a reversal of authorship. This is confusing, and ultimately not helpful to the book-buying public.

This is a very good book when viewed as an update to the first edition of *Fundamentals*, which itself was a good book. Many sections have been rewritten and updated, and a lot of new information has been added; as a consequence, the book has grown from 284 to 481 pages. However, when viewed next to *Molecular Evolution*, one of the books it will compete against, it is much less clear what the authors are trying to achieve; the books are of similar length and price, and have a similar structure. It would be understandable if *Fundamentals* was a shorter and simpler version of *Molecular Evolution*; but this is not the case, some topics are covered in more depth in *Fundamentals*. So in a sense this new edition is both a complete revision of *Fundamentals*, and a partial revision of *Molecular Evolution*.

The structure of the book is identical to that of the first edition, except that the glossary has been omitted, and two appendices have been added. The appendices deal with the temporal and spatial framework of evolution, and the basics of probability. The first of these is particularly useful. However, there is one big omission from the new *Fundamentals*, a chapter on intraspecific molecular variation. In an era when single nucleotide polymorphism (SNP) data and QTL mapping are about to revolutionize both human genetics and population biology, an understanding of the mechanisms by which genetic variation arises and is maintained, is vital. Furthermore, intra- and interspecific data are being used increasingly often in conservation genetics. But there is no mention of intraspecific variation except in the second chapter, which deals with some theoretical aspects of molecular evolution. If it were not for this omission I would warmly recommend this book, because it is well written and nicely presented. It is an ideal text for both undergraduate and graduate students.

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## Books received

**Phylogeography — The History and Formation of Species.** John C. Avise. Harvard University Press, Cambridge, MA. 2000. Pp. 447. Price £30.95, hardback. ISBN 0 674 66638 0.

**Quantum Evolution: The New Science of Life.** Johnjoe McFadden. HarperCollins, London. 2000. Pp. 338. Price £16.99, hardback. ISBN 0 00 255948 X.

**Evolution — An Introduction.** Stephen C. Stearns and Rolf F. Hoekstra. Oxford University Press, Oxford. 2000. Pp. 381. Price £18.99, paperback. ISBN 0 19 854968 7.