other textbooks presently available, particularly at the introductory undergraduate level.

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**A Primer of Population Genetics (3rd edn).** Daniel L. Hartl. Sinauer Associates, Inc., Sunderland, MA. 2000. Pp. 221. Price £21.95, paperback. ISBN 0 87893 304 2.

The development of mathematical genetics in the first quarter of the twentieth century proved a triumph of reason over invective, effectively uniting Darwin's arguments with Mendel's observations. It provided a powerful heuristic for evolutionary biology and set the stage for the New Synthesis, while generating the foundations of modern population and quantitative genetics (see Provine, 1971 – happily for us and our students, University of Chicago Press plans to re-issue this out-of-print classic). At the beginning of this slim volume, Hartl argues – I believe correctly – that the advances of molecular biology, by allowing virtually all genetic variation to be visualized (rather than the previously accessible small subset), draws population genetics even closer to the centre of biology, gives it abundant empirical grist, and makes it more important than ever.

Hartl's 'big' book (Hartl & Clark, 1997) has been a popular, complete introduction to the field, with the previous versions of this *Primer* as a condensed but not diluted complement. This new edition continues to fill the valuable role of a quick immersion. Its lively style, good graphics, real examples and largely error-free production will make it valuable not only to students but to professionals in other areas of biology (molecular genetics, ecology, systematics, epidemiology, conservation biology, etc.) willing to be convinced of what modern population genetics, broadly construed, has to offer their disciplines.

The book is divided into four chapters of about 50 pages each, which prove to be logical and stimulating foci for such a précis. Chapter 1 introduces genetic variation in populations with a clear summary of molecular techniques, leading on to a standard development of random mating, linkage disequilibrium and inbreeding. Chapter 2 is a short course in how genetic variation within and among populations changes through time, i.e. of evolution, and touches on advanced topics such as hierarchical population structure and diffusion approximations to random genetic drift. Chapter 3 leads through some newer territory. It shows some of the ways that population geneticists, including Hartl, have advanced theory to capitalize on details of genetic variation revealed by molecular biology, with the goal of inferring evolutionary history of genes and species and the relative roles of different evolutionary factors. Chapter 4 is a nice summary of quantitative genetics in its current manifestation, from heritability to QTLs. Throughout there is a successful weaving together of many strands: basic and advanced, modern and historical, mathematical and statistical, practical and theoretical. Each chapter is followed by a set of useful word problems that probe our understanding and illustrate puzzles one is actually likely to encounter in research. The chapters are nicely cross-referenced. I enjoyed reading this book and recommend it to you.

### References

HARTL, D. L. AND CLARK, A. G. 1997. *Principles of Population Genetics*. 3rd edn. Sinauer Associates Inc.

PROVINE, W. B. 1971. *The Origins of Theoretical Population Genetics*. University of Chicago Press.

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# Books received

**Epistasis and the Evolutionary Process.** Jason B. Wolf, Edmund D. Brodie III and Michael J. Wade (eds). Oxford University Press, Oxford. 2000. Pp. 330. Price £62.50, hardback. ISBN 0 19 512806 0.

**Molecular Evolution and Phylogenetics.** Masatoshi Nei and Sudhir Kumar. Oxford University Press, Oxford. 2000. Pp. 333. Price £65.00, hardback. ISBN 0 19 513584 9.