

focus all our attention on these problems, or whether these are just some issues and there are others that are equally important. For example, no chapters confront in detail the evolution of interspecific interactions or the process of coevolution. The interaction biodiversity of the earth is as much a product of evolution as is species biodiversity and genetic diversity. Processes such as gene-for-gene coevolution and coevolutionary alternation mold the genetic diversity of interacting taxa.

There are so many issues to address in biodiversity that the problem is in getting our priorities straight. One of the points that emerges from these chapters, and is highlighted in one of the section overviews by Sean Nee and a group of co-authors, is the continuing real need for better integration of evolutionary perspectives with many ecological and conservation issues in biodiversity. These chapters help to show some of the places where the integration is best and worst. That, in itself, is a useful contribution, because it points to aspects of biodiversity where some of most important work needs still to be done.

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**Genetic Data Analysis II.** Bruce S. Weir. Sinauer Associates, Inc. Publishers, Sunderland, Massachusetts. 1996. Pp. 445. Price £24.95, paperback. ISBN 0 87893 902 4.

Do not be misled by the title of this book: it is not the second volume of Weir's *Genetic Data Analysis* (1990), but a second edition. Indeed, the publishers should take note that the Library of Congress catalogue entry refuses to record the 'II' and just lists it as the second edition. Other librarians should do likewise.

The first edition was an immediate success, filling a large gap in the literature. In the new edition the original Chapter 6 'Analyses between generations' has been expanded into three chapters, 'Individual identification', 'Linkage', and 'Outcrossing and selection'. Computer programs are no longer included, but an insert advises that they may be obtained from the author's Web site. All the typographical and other errors which I noticed in the first edition seem to have been corrected.

The field which the book covers is now so large, and growing so fast, that in many parts the treatment is necessarily introductory, especially in the cases of 'Linkage' (Chapter 7) and 'Phylogeny reconstruction' (Chapter 10), but up-to-date references to the specialist literature are given. The author has, however, missed an important book on the latter topic, perhaps because it is not in English. *Reconstruction phylogénétique* by P. Darlu and P. Tassy (Masson, Paris, 1993).

It cannot be often that a reviewer finds that a table from one of his own papers has become the cover illustra-

tion for the book under review, but my rendering of Mendel's original data is used as a kind of backdrop to the cover of the new *Genetic Data Analysis* (from *Biological Reviews*, 61, 295, 1986, source acknowledged). In Weir's typesetting, however, the Greek  $\chi$  of the  $\chi^2$  test has been replaced by a Roman  $X$  and  $X^2$  for Pearson's chi-squared criterion is used throughout the book as it was in the first edition. This is presumably an attempt to apply the convention that random variables are lower-case while their realized values are upper-case. Introduced for  $\chi^2$  by W. G. Cochran (*Biometrics*, 10, 417) in 1954 it is doubly to be regretted, first because although Greek  $\chi$  and Roman  $x$  differ in lower case, they are both  $X$  in upper case and  $x$  is an overworked letter in statistics, and secondly because Pearson's criterion is not exactly distributed as  $\chi^2$  anyway, even when the null hypothesis is true (which it never is). It is reminiscent of the attempt to call the *ABO* blood-group genes  $I^A$ ,  $I^B$  and  $I^O$ , which died a natural death. In notation, too much logic is not a good thing.

This new edition of a well-established text is greatly to be welcomed, and selects itself automatically as the preferred text for a course on the subject. There are many worked examples as well as exercises in abundances. The printing and the paper have both been improved. I hope the author will be able to keep up with the field and present us with a third edition in due course.

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**Genomes of Plants and Animals (21st Stadler Genetics Symposium).** J. Perry Gustafson and R. B. Flavell (eds). Plenum Press, New York. 1996. Pp. 319. Price \$85.00 (USA), hardback. ISBN 0 306 45372 X.

There has been considerable controversy over the value of big budget genome projects. What of value will come from them? If most DNA is non-coding, how will the coding DNA be distinguished from the non-coding DNA and what is the point of spending any time on the non-coding sequences? *Genomes of Plants and Animals* provides some convincing answers to these questions. The book is the result of the 21st Stadler Genetics Symposium and consists of a collection of papers ranging across the field of genome biology.

Unlike many books of this nature, the papers are well presented and the figures are reproduced clearly. Papers describe advances in genome analysis technology, progress on the major genome projects, the application of current technology to breeding and conservation programmes, and the use of the technology and data generated thus far to answer a range of biologically interesting questions.