

more closely related to sisters than to brothers, favouring a higher ratio of female to male brood. Herein lies the main source of conflict.

Recent theoretical developments have considered how Hymenopteran sex allocation should be affected by colonies containing multiple queens, as well as multiply mated queens. These parameters affect the relatedness structure of colonies and the authors give excellent explanations of the predicted responses of colony members using kin-selection based models. There follows a very in-depth and useful review of empirical tests which supports the generally accepted view that workers, and not queens, control sex allocation in these insects. Another recent development in the theory covered by this book is that of how resources should be allocated between new worker and new sexual production.

One short-coming of this volume is the omission of several recent empirical and theoretical studies. Although this is a rapidly developing field, there is a relative dearth of 1994 and 1995 papers referenced.

Overall, this book is an excellent review of both the theory and field data for sex allocation in social Hymenoptera. It is aimed at those interested in the mathematical or theoretical modelling of social insect evolutionary biology. People looking for a less mathematical treatment of social insect evolutionary biology should also consider Bourke and Franks' recent *Social Evolution in Ants* (Princeton University Press, 1995). These days, students of Hymenoptera have few excuses not to be well read. I believe Darwin would be delighted at the current understanding of worker 'altruism', and would place this book highly on his list of 'must reads'.

GEORGE CHAN
Institute of Zoology
Zoological Society of London
Regent's Park
London NW1 4RY
U.K.

Gene Therapy in Cancer (Basic and Clinical Oncology Series, 10). Malcolm K. Brenner and Robert C. Moen (eds). Marcel Dekker Inc., New York. 1996. Pp.264. Price \$145.00, hardback. ISBN 0 8247 9481 8.

I was initially excited by the title of this short monograph when it appeared on my desk. It was an interesting read, but my major concern would be that in a burgeoning field such as gene therapy, a specialised book of this type is almost inevitably out-of-date by the time it goes to press. The book has been well edited, however, in that the articles are brief, to the point and easy to assimilate without the need to go to further text books.

Given that some of the contents are now past their sell-by date, I would have preferred to have seen more in the way of general introduction to the book, but the introductory chapter by Robert C. Moen was a useful and brief summary of the state of the art. The remainder of the chapters are detailed accounts written by acknowledged

experts in their area, but are heavily biased towards both immune therapy and immune-gene therapy of cancer. It is clear that this was the part of the field which had progressed most in 1994/5 and as such was most worthy of coverage. For a geneticist however, unless their speciality was the immune system (when the information is now outdated) there is less interest.

The title is therefore slightly misleading. Major omissions include more detailed information on 'suicide' genes as outlined in the chapter by Yawen L. Chang. I felt that the discussion of pro-drug metabolizing enzymes, for example, limited to two pages in this section, could have been expanded into a chapter of its own. There was however an interesting chapter by Sorrentino discussing the gene therapy of drug resistant cancers. Clearly, the development of drug resistant disease is a marker which can be targeted in tumour cells of all types, including the immune system, relative to normal cells and this approach may hold great potential for the prevention or elimination of relapsed cancers.

A discussion of cell-targeted gene therapy, for example by specific tailoring of promoters, as has been possible in a number of melanoma gene therapy trials, was also absent. The difficulties in achieving this type of targeting are occupying a large amount of international effort and a review of this would have been most valuable. Covered in the Introduction but not in the detail it deserves were the finer points of what has become known as 'vectorology', which is again vital if safe methods of gene transfer in humans are to be achieved.

I would therefore recommend the volume as a useful introduction to the state of the art at the time of its conception. This is particularly true for haematological malignancies. The introduction is sufficient to allow the non-specialist but interested clinical reader, at whom I believe the volume was targeted, to pick up sufficient information to lead them on to a critical reading of the current literature. However, I would caution that the field has moved at an explosive, exponential rate since this volume was both commissioned and published and that an update is already due if the book is to perform a useful function. I look forward to reading further volumes in this series as it develops.

NORMAN J. MAITLAND
Cancer Research Unit
Department of Biology
University of York
P.O. Box 373
York YO1 5YW
U.K.

Statistical Methods for Plant Variety Evaluation. R.A. Kempton and P.N. Fox (eds). Chapman and Hall, London. 1997. Pp. 191. Price £39.00, hardback. ISBN 0 412 54750 3.

Statistical methodology in field trials is probably not many peoples' idea of 'sexy science'. Although receiving less