

what purpose it will serve at a time when there are already over 30 up-to-date textbooks dealing with animal behaviour on the market. In my view, its chief use will be an aid to lecturers in planning or revising undergraduate courses in animal behaviour rather than as a recommended text for students. Most of the ideas and examples dealt with by Ridley are dealt with, usually in greater depth, by many of the other texts and it is to these, I feel, that students will repair in their reading around.

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Drosophila: a practical approach. D. Roberts (ed). IRL Press Ltd, Oxford. 1986. Pp. xix+310. Price £26.00, \$47.00 US HB; £16.50, \$30.00 US PB. ISBN 0 947946 66 7 HB, 0 947946 45 4 PB.

This volume sets out to be a simple guide to the basic techniques of *Drosophila* genetics. There has been a crying need for such a text for many years and the problem of writing it has become increasingly daunting with the introduction of molecular and biochemical techniques. In Chapter 1, Roberts outlines laboratory methods of handling *Drosophila* stocks. Successive chapters discuss such techniques as mutagenesis, transposon-tagging, microcloning, *in situ* hybridisation, the handling of embryos, induction of mitotic clones and monoclonal antibodies.

The real joy of this book is that each chapter is clearly written. The normal problem with multi-author texts, that the particular chapter you're really interested in is unreadable, has been avoided. This might reflect ruthless editing on Roberts' part, but I suspect has more to do with his care in selecting the contributing authors in the first place.

The text does not set out to be definitive. Rather it is a set of methods that work, with a few source references. As an introduction this is ideal: not only is the information in the book, but you can find it. Should your perusal be disturbed by a passing fly, the whole book remains small enough to be picked up and used to swat it.

Despite limitations of space, I would prefer to see the second half of Chapter 2 expanded. In this chapter, Grigliatti describes methods of mutagenesis and recovery of mutations and deletions. Techniques of handling chromosome aberrations, however, are mentioned only briefly. Much of the advantage of working with *Drosophila* derives from this arcane, terminology-ridden, branch of classical fly-pushing and a detailed discussion of the available approaches would be helpful. In particular, the segmental aneuploids of Lindsley and Sandler *et al.* are briefly mentioned and the reader is assured that the techniques are well described in that paper. As one of the generation of *Drosophilists* that broke its milk-teeth sweating over Lindsley and Sandler *et al.*, I readily concede that the method is conceptually

simple, elegant and a key work in the literature. It is not, however, easy to read. In addition, the omission of a discussion of Craymer's technique for constructing synthetic deletions and duplications from pericentric inversions is a serious lack.

This volume gives a clear, concise introduction to the techniques used by *Drosophila* workers. It is consistently well-written and well-illustrated despite covering a wide range of different approaches. Every flylab. should have a copy.

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Plant breeding systems. A. J. Richards. George Allen and Unwin, London. 1986. Pp. xiv+529. Price £45 HB, £19.95 PB. ISBN: 0 04 5810206 HB, 0 04 5810214 PB.

Over the past 20 years there have been enormous advances in our understanding of plant breeding systems. With the formulation of appropriate models, and the application of new genetic techniques, notably gel electrophoresis, it has been possible to take the subject beyond the level of description and speculation. We are now in a position experimentally to test theories of breeding system evolution and to investigate their genetic consequences. With the increase in knowledge comes the necessity for a new synthesis of ideas and a re-evaluation of current wisdom. Dr Richards has set himself the exciting but exacting task of producing such a synthesis, a task which few would have the temerity to undertake.

The author's interest in plant breeding systems stems from his love of plants and natural history and his enthusiasm for the subject is especially evident in Chapters 3 and 4 of this volume which deal with sexual reproduction in seed plants and floral diversity and pollination. I found these chapters stimulating and informative, illuminating many dark corners of my own ignorance. The style is chatty, with many anecdotal asides, a format which suits the topic admirably. Unfortunately this easy style is not sustained throughout the book. I gained the impression that in the preparation of many chapters too little time had been devoted to sorting, digesting and assimilating the material before it was presented. In places the book bears an uncomfortable resemblance to commentary on a series of papers which have just been read, and it is very difficult to discern a coherent theme running through the text.

A second shortcoming of the book is that the author shows a general aversion to mathematical modelling. The consequence is that many of the evolutionary arguments which he uses are verbal arguments which lack rigour, and are in the author's words "unashamedly popular and group selectionist". This leads to a number of inconsistent statements. Thus in Chapter 2 he argues that environments are so heterogeneous that there is