

way for animal work, and was particularly apparent in Flavell's chapter on rRNA genes. Another theme is the likely future role of *Arabidopsis* in plant molecular biology. Its small genome size, short generation time and ready availability of mutants (among other properties) make it well suited to become a green *Drosophila*, although in spite of early enthusiasm it seems to be a little slow in getting off the ground. A third theme, the importance of which cannot be overstated, is of course the development of transient expression systems and techniques for producing transgenic plants. The contribution these are making and will make to our understanding of the molecular and cellular basis of the control of plant gene expression is vast, and there were foretastes of it in several of the chapters. There is a lot of scope for refinement, of course, notably the need to be able to direct sequences to particular parts of the genome and also the need to get them into the chloroplast and mitochondrial genomes. The mitochondrial genome at least is becoming a little more accessible using the cybrid techniques described by Pelletier. I expect these and other themes will get the development they surely deserve in future volumes. Certainly I can recommend this volume as a useful collection of good review articles covering a wide, but by no means complete, area of Plant Molecular and Cell Biology.

CHRISTOPHER HOWE
Department of Biochemistry
University of Cambridge

Biological, biochemical and biomedical aspects of actinomycetes. Parts A & B. Gabor Szabo, Sandor Biro & Michael Goodfellow (eds). Akademiai Kiado, Budapest. 1986. Pp. Part A xxvii + 429, Part B xxii + 451. Price: £59.50 ISBN 963 05 4395 8.

These two volumes contain the written account of the 6th International Symposium on Actinomycetes Biology held in Debrecen, Hungary in August 1985. Since the Fifties this group of organisms, especially those of the genus *Streptomyces*, has risen to a position of central importance in the biotechnology industry as a consequence of their proven value as antibiotic producers. Their continued importance derives not only from their capacity to synthesise antibacterial drugs but also a range of other secondary products which include antitumour, antiviral and herbicidal agents. This has stimulated a dramatic expansion of actinomycete research as was evident from this gathering of some 500 scientists from 27 countries.

The conference covered current research in all aspects of actinomycete biology. This was organised into nine plenary sessions devoted to: genetics, physiology and biosynthesis of primary metabolites, biosynthesis of secondary metabolites, biochemistry, morphology and ultrastructure, taxonomy, pathogenicity and immunology, ecology and epidemiology, differentiation.

However, it is notable that the application of molecular genetics to actinomycete research is now a major research focus with well developed DNA cloning systems complete with a range of designer vectors and associated DNA transfer systems.

The conference topics are covered in the written proceedings by three types of article; the full text of lectures read at the nine plenary sessions, abbreviated versions of eight mini-symposia and the abstracts of seven poster sessions. Each type of written article has its special value although the latter two, being brief, serve to give only a taste of the fruit.

As a snapshot of the current position of the entire field of actinomycete research these two volumes provide a collection of great value to those wishing to survey the field. This is really where its usefulness lies. As a sourcebook for undergraduates it lacks the necessary coherence and unification to be of much value although the major articles do represent mini-reviews. Unfortunately like others of its kind, this book suffers the fate of all snapshots in a field in full gallop—the field passes quickly by.

The comment on this group of organisms made by the symposium president in his preface will touch a chord with all those researchers who read this book. "They really are beautiful, although it is not easy to work with them".

PROF. D. A. RITCHIE
Department of Genetics
University of Liverpool

Population genetics and fishery management. Nils Ryman and Fred Utter (eds). Washington Sea Grant Program; Distributed by University of Washington Press, Seattle and London. 1986. Pp. xvii + 420 Price \$17.50 US PB; \$35.00 US HB. ISBN 0 295 96436 7 PB; 0295 96435 9 HB.

Any cynical geneticist who has worked with fish species of commercial or sporting importance may be forgiven for suggesting that until recently the two subjects linked together in the title of this book have been incompatible. The reasons for this are complex. Historically the genetical identification of fish stocks with a view to assisting in fisheries management commenced with studies on marine species. The species chosen usually had large population sizes, widespread distribution and complex life histories involving longterm planktonic egg and larval phases and adult migrations of great distance between spawning and feeding grounds. The degree of genetical variation these studies provided frequently proved insufficient to assist the traditional population dynamics workers in their efforts to manage fish stocks by catch quotas, restricted areas and seasonal limits.

However with the development of efficient hatchery techniques and programmes of stock enhancement for species over which some measure of population manage-