

BOOK REVIEW

KEW CHROMOSOME CONFERENCE II P. E. Brandham and M. D. Bennett (Eds.) George Allen and Unwin (London) ISBN: 004575022X.

This attractive green and yellow hardback of some 400 pages reports the proceedings of the second Kew Chromosome Conference held in the Royal Botanic Gardens, September 1982—the first was held in 1976 to mark the centenary of the Jodrell Laboratory at Kew and its proceedings were published in the volume “Current Chromosome Research”.

From the outset the organisers planned a small conference of only 150 invited participants concentrating on certain key aspects of chromosome science. There were no parallel sessions in order to foster a broader perspective. These Kew Conferences are designed to alternate with the Oxford Chromosome Conferences which have developed into much larger affairs and consequently have a different character—the eighth one has been held in Lübeck, West Germany in September 1983 and it will be interesting to compare the proceedings published as the “Chromosomes Today” series.

All 38 of the research papers delivered are published in this volume—quite an achievement since usually someone fails to deliver! These are mostly 8 pages long, which is short enough to be digestible yet long enough for the careful author to make his point. They are grouped under five headings: Chromosome Structure, Chromosome Disposition and Genome Organisation, Fine Structure of Chromosome Pairing, Chromosome Behaviour in Mitosis and Meiosis and Chromosome Evolution. Also included is Professor J. Heslop-Harrison’s specially invited evening lecture on “Chromosomes, Cladism and the New Evolutionary Debate”. In addition the conference had sessions to display posters of which 46 are reported as one page abstracts; these cover many subjects and add flavour around the main topics.

Chromosome Structure contains only 6 papers but they are all very different and include coiling models, banding techniques, *In Situ* hybridisation, RNA genes with methylation and chromosome condensation with disulphide. I am left feeling how little we know—but the two Plant Breeding Institute (Cambridge) papers in particular offer some hope. Chromosome Disposition is a much narrower topic covered in 5 papers, once again containing two illuminating ones from P.B.I.

Fine Structure of Chromosome Pairing is also a narrow topic and comprises 4 quality papers which demonstrate the advances that have been made with the electron microscope in the last 10 years. Three use surface spreading and one serial sectioning; two use plants and two (quite sensibly!) use Orthoptera.

Chromosome Behaviour in Mitosis and Meiosis has 10 papers covering a wide variety of subjects, including such intriguing phenomena as chromosome elimination, “cuckoo” chromosomes and Selfish “B” chromosomes. Here several good papers from Aberystwyth complement those from P.B.I.

Chromosome Evolution is a massive area and 12 varied papers touch on many points between them. We have chromosomal clines and hybrid zones within species of Orthoptera, DNA and synaptonemal complex differences between related plant species, much needed evidence on the origin of chromosomal variation, and the heteromorphism in newt lampbrush chromosome 1 is fascinating. Concerted evolution and molecular drive are perplexing—but this is not why Bernard John in the following paper is sceptical of molecular claims—rather he does not like the arrogant reductionism of certain molecular men.

The speed with which these proceedings have been published and the high quality of production show what can be achieved with modern word composers and camera ready copy. The typestyles and page layout are clear and pleasing and, particularly important for chromosome work, the figures can now be reproduced to a good standard.

This book provides clear, concise samples of current research on chromosomes. It does not contain many contributions from Molecular Genetics and only one from Human Genetics—the enormous efforts in these areas require books of their own—but rather it considers “The Chromosome” broadly by examining what the organisers feel are its key aspects. I found it readable—collections of papers often aren’t—and can recommend it to anyone interested in chromosomes. In particular honours and graduate students will benefit from access to this selection of short well referenced and current articles.

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BOOKS RECEIVED

- DNA REPAIR. A LABORATORY MANUAL OF RESEARCH PROCEDURES. Vol. 2. Errol C. Friedberg and Philip C. Hanawalt (Eds.). Marcel Dekker Inc. Pp: 393. Price: SFr132.00 HB.
- NATURAL SELECTION AND ITS CONSTRAINTS. Oliver Mayo. Academic Press Inc. (London). Pp. viii + 145. Price: £5.95 (\$9.50).
- ANEUPLOIDY. D. C. Bond and Ann C. Chandley. Oxford University Press. Pp. ix + 198. Price: £25.00 HB.
- CANCER: ETIOLOGY AND PREVENTION. Ray S. Crispen (Ed.). Elsevier Biomedical Publ. Co. Inc. Pp. ix + 463. Price: Dfl. 185.00.
- PRINCIPLES AND PRACTICE OF MEDICAL GENETICS (VOLS 1 and 2). Alan E. H. Emery and David L. Rimoin (Eds.). Churchill Livingstone, Edinburgh. Pp. xx + 1545. Price: £85.00.
- THE BIOLOGICAL BASIS OF REPRODUCTIVE AND DEVELOPMENTAL MEDICINE. Joseph B. Warshaw (Ed.). Elsevier Science Publ. Co. Inc. (NY). Pp. viii + 445. Price: \$49.50.
- NATURAL SELECTION, HEREDITY AND EUGENICS. J. H. Bennett (Ed.). Oxford University Press. Pp. x + 306. Price: £17.50.