

Book reviews

Obe, G.; Natarajan, A. T. (eds.): Chromosomal Aberrations, Basic and Applied Aspects. Berlin Heidelberg New York: Springer 1990. 319 pp. Numerous figs and tabs. Hard bound.

The editors of this book have assembled 27 chapters all devoted to chromosome breakage phenomena in largely mammalian and human material. In total, 72 authors contributed. Many chapters could likewise have been published in regular journals. However, the opportunity of contributing to a book like this one has encouraged many authors to write particularly thorough introductions and discussions. Thereby, this book aids in pulsing the present state of the art in this area of genetic research. The editors were successful in collecting a very balanced set of papers. These range from many aspects of the basics of DNA damage and repair, the nature of chromosome instability in neoplasia, the genetics of chromosome instability, adaptive responses to clastogenic agents to more applied aspects like biological dosimetry in the low dose ranges. The only pity is that attention is almost entirely focussed on somatic systems; only one chapter is devoted to germ cells. However, the frequent use of *in vitro* systems for studying DNA damage and repair has hitherto precluded parallel research in male germ cells. The book can be enthusiastically recommended for both researchers and teachers in a field that so nicely bridges understanding and application.

P. de Boer, Wageningen

Witkowski, R.; Herrmann, F. H.: Einführung in die klinische Genetik. Wissenschaftliche Taschenbücher Band 171. 4th edn. Berlin: Akademie-Verlag 1989. 240 pp., 48 figs. Paperback DM 16.00.

"Medical Genetics, An Introduction" is an updated, revised book in its 4th edition. The tremendous developments that have occurred over the past years in human genetics have inspired the authors to revise this useful paperback. The material is presented in four main chapters: Mendelian hereditary, mutations, population genetics and genetic counseling (in total 164 pages). In addition a 64-page appendix is in the form of a short dictionary of most common hereditary syndromes and malformations. Despite Figures 8, 14 and 19, which are examples of bad quality graphics and Figure 24 (pp. 75), which is not correct according to cytogenetics rules, the readers will enjoy this comprehensive and low-priced book.

P. Eberle, Braunschweig

Miller, J. R.: X-Linked Traits, A Catalog of Loci in Nonhuman Mammals. 1st edn. Cambridge: Cambridge University Press 1990. 198 pp., few figs., 7 tabs. Hard bound \$ 39.50.

The title of this book sufficiently explains its contents. Apart from the actual catalog, the book contains in introduction of 26 pages and 2 appendices, one about X-linked DNA segments in the mouse and one about the Y-linked genes' genetic functions. The book actually appears on the brink of two eras: classical-genetic and DNA-directed. The connection between the old and the new or better, describing all that is old before part of the literature is overshadowed by DNA-segments only, is what makes this book very useful. Within the catalog, a description of each gene is followed by a reference list. The amount of information packed into the book is quite enormous, certainly when considering both size and price. The book is certainly to be recommended to anyone interested in sex chromosomes, both from the functional as well as from the evolutionary aspect.

P. de Boer, Wageningen

Fry, J. C.; Day, M. J. (eds.): Bacterial Genetics in Natural Environments. London, New York, Tokyo, Melbourne, Madras: Chapman and Hall 1990. 259 pp., 51 figs., 40 illustrations and tabs. Hard bound £ 44.00.

This book is based on the Second European Meeting on Bacterial Genetics and Ecology held at the University of Wales on April 11–12, 1989. It consists of four sections which describe the state of our current knowledge of ecological bacterial genetics and also our current interest in the application of genetically engineered microorganisms (GEM's). The book thus deals mainly with gene transfer and survival of GEM's and other interesting microorganisms.

The aim of section I is to summarize the general aspects of studying bacterial genetics in nature in distinct microbial communities, the dissemination of DNA by bacterial conjugation, the cells own barriers to gene transfer among bacteria and, in a separate paper, phage genetics and ecology. Section II contains five contributions on gene transfer in aquatic habitats: plasmid isolation and the effect of temperature on the transfer of plasmids in freshwater, the transfer of recombinant DNA in a fixed biomass, i.e. in laboratory biofilms, or within marine environments and activated sludge. Gene transfer in various terrestrial habitats is the topic of papers 10 to 18 in section III. These contributions summarize the various gene transfer mechanisms between soil bacteria, transfer in polluted soil among rhizosphere bacteria, the use of a soil/plant microcosm, the RP4 plasmid transfer from pseudomonads in a loamy sand soil, factors affecting plasmid transfer, the risk assessment using broad host range promoters in broad host range replicons in order to study the potential ecological risk of replication and gene expression in a soil population, or survival of GEM's on inanimate surfaces and in animals. Section IV gives both an overview of the contents of the original contributions and a survey of the problems concerning the use and release of GEM's in nature, the evolutionary barriers, the ecological significance of the gene flow or the impact of GEM's on the combination of bacterial genes in soil bacterial populations. It also discusses future tasks of designing and testing various microcosms in the laboratory instead of in field or greenhouse experiments.

The book thus attempts to encourage researchers to cross the divide between genetical research and bacterial ecology.

J. Hofemeister, Gatersleben

Brown, F.; Chanock, R. M.; Ginsberg, H. S.; Lerner, R. A.: Modern Approaches to new Vaccines including Prevention of AIDS. Cold Spring Harbor: Cold Spring Harbor Laboratory Press 1990. 502 pp., 166 figs., 103 tabs. Soft bound.

This book contains the proceedings of the seventh meeting on Modern Approaches to Vaccines held in September 1989. The published papers deal with immunology, virology, AIDS, bacteriology and parasitology.

Several papers focus on innovative immunologic techniques or methods rather than on a particular organism or disease. Over 25 different viruses are discussed in this volume. A theme common to many of the virus-related presentations is the new methods for expressing viral gene products and epitopes. Thirty-three papers deal with AIDS. Two groups provided the first evidence that vaccines against lentivirus infections may be possible. Some reports discuss the development of the feline immunodeficiency virus as a model for AIDS. Interesting new work is presented on cellular immune responses in AIDS.

This proceedings will be of interest to immunologists, physicians, and biologists working in the field of medical microbiology.

F. H. Herrmann, Greifswald