

---

 Book Reviews
 

---

Generoso, W.M.; Shelby, M.D.; de Serres, F.J. (eds.): **DNA Repair and Mutagenesis in Eukaryotes**. Basic Life Sciences, Vol. 15. New York: Plenum Press 1980. 458 pp., 75 figs., 33 tab. Hard bound \$ 42.00.

The induction of mutations in organisms by chemical and physical agents is related to the lesions so caused in the DNA by these agents. Repair systems present in these organisms can remove lesions before they can be converted to mutation or they can convert primary lesions to secondary ones that are themselves mutagenic. Additionally these repair systems can remove potentially lethal lesions at the expense of making mutations. For these reasons a book such as this covering DNA repair and mutagenesis is important in filling the need for a comprehensive compilation of current information on the subject. While much knowledge has been gained with prokaryotes, the eukaryotes have not received as much attention, making this book even more valuable.

The book is presented in six sections, the first containing reviews on the relationship between repair and mutation, largely gained of course from prokaryotes. Then follows a large section on the lower eukaryotes, dwelling mostly on *Neurospora* and *Saccharomyces*. Sections follow on *Drosophila*, on mammalian somatic cells, mammalian germ cells and finally on the relevance to human health assessment. Of all these biological systems most is known about the relation between repair and mutagenesis in yeasts. However, as the book relates, encouraging progress has been made with the other eukaryotes. It is perhaps disappointing that no comment is made on the possible relationship between poly ADP ribose synthesis and eukaryotic repair synthesis. Perhaps this is due to the fact that the book is actually the Proceedings of a conference on repair and mutagenesis held in Atlanta, Georgia in 1979, at a time therefore before the significance of poly ADP ribose metabolism to repair processes was fully appreciated.

The book is of course of immense practical interest in bridging the gap between prokaryotes and eukaryotes on the one hand, and

experimental eukaryotes and man on the other. Each of the thirty one chapters has an extensive reference list, while the book is finished off with a comprehensive subject index.

J.F. Jackson, Glen Osmond

Hahn, F.E.; Kersten, H.; Kersten, W.; Puck, T.T.; Springer, G.F.; Szybalski, W.; Wallenfels, K. (eds.): **Progress in Molecular and Subcellular Biology**, Vol. 7. Berlin, Heidelberg, New York: Springer 1980. 256 pp., 31 figs., 12 tabs. Hard bound DM 86.—.

Volume 7 of this series is of extraordinary interest to those engaged in the fields of DNA photobiology and recombination. The biological effects of incorporation of BrUra and IUra in DNA of bacteria, phages and mammalian cells has now been comprehensively reviewed by G.F. Hutchinson and W. Köhnlein, 24 years after the first observations published by Free and Zamenhof. A broad range of effects, i.e. incorporation, photo-sensitisation, repair, staining of chromatids and growth inhibition, are considered.

The extensive review (199 pages) by D.J. Kopecko is distinguished by a detailed description of the various types of bacterial specialized recombination systems and their relation to mutation, gene regulation and micro- and macro-evolutionary changes. The interest of the reader might especially be drawn to this excellent treatise.

The review 'Viroids' by T.O. Diener and R.A. Owens deals with the rather recent discovery of closed circular RNA species definitely known to exist in higher plants and suggested to cause a group of animal or human diseases. The reviews by A.K. Krey concerning 'Non-intercalating binding to DNA' and by H. Faulstich on the occurrence, structure and importance of 'The amatoxins' are of more specialized interest. It remains to stress the exceptionally high relevance and quality of the included reviews.

J. Hofemeister, Gatersleben