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 Book Reviews
 

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**W.K. Silvers: The Coat Colors of Mice, a Model for Mammalian Gene Action and Interaction.**

Berlin-Heidelberg-New York: Springer 1979. 379 pp., 65 figs. 3 plates in color. Hard bound DM 59,60

Here we finally have an updated compendium on the coat-color genetics of the mouse. As the author states, the last attempt at a complete treatment of this topic was in Grüneberg's *The Genetics of the Mouse*, published in 1952. Much has happened in mammalian developmental genetics in the past 25 years to merit this timely update. Indeed, one need not go beyond the pages of this book to find classic examples for the student of modern developmental genetics, from pleiotropy and epistasis to X-chromosome inactivation and pheomelanin and eumelanin biosynthesis.

The introductory chapters provide a description of the development of the melanocytes and hair follicles and the biosynthetic pathways of pigment formation. Each of the more than 50 loci involved in the coat-color of mice is dealt with separately in some detail, the general format being origin and influence on pigmentation, mode of gene action and pleiotropic effects. The literature is thoroughly reviewed with 40 pages of references being provided. There are footnotes listed at the conclusion of each chapter which provide miscellaneous asides. These may be invaluable to the researcher while being of lesser importance to the general reader. The chapters on allophenic mice and X-chromosome inactivation provide a current report on the contribution that coat-color genes have made to our understanding of developmental biology. Separate author and subject indices provide the reader with a quick guide to specific references. This volume will be welcomed by researchers and graduate students in developmental genetics.

E.J. Eisen, Raleigh

**McElheny, V.K. (ed.): Assessing Chemical Mutagens: The Risk to Humans. Banbury Report 1.**

Cold Spring Harbor Laboratory 1979. 367 pp., 65 figs., 26 tabs. Hard bound \$ 25.00

Research in the area of chemical mutagenesis has been carried out for about three decades now. One of the most important results of this research is the knowledge that chemical mutagens are sufficiently common and ubiquitous as to pose a threat to exposed human populations. Efforts to develop toxicologically sound mutagenic test systems began only about ten years ago.

Despite the large number of texts and volumes written during this ten years period of reasonably intense activity, the first Banbury Report, 'Assessing Chemical Mutagens: The Risk to Humans', seems to be a very important contribution to providing a better understanding of the public health issues, needs and requirements. The first Banbury Conference brought together many of the authorities on chemical mutagenesis to assess how one might measure the potential harm to humans of synthetic and naturally occurring mutagens. The following papers are given in the Banbury Report: R.N. Hill 'Introduction'; J.V. Neel 'Mutation and disease in humans'; W.G. Flamm 'Strength and Weaknesses of tests for mutagenesis'; E. Eisenstadt 'Bacterial mutagenicity testing: some practical considerations'; G.C. Walker 'Theory and design of short-term bacterial tests for mutagenesis'; R. Setlow 'DNA repair'; J.G. Brewen 'Cytogenetic studies and risk assessment for chemicals and ionizing radiation'; J.W. Baum 'Radiation-induced cancer'; D. Hoel 'Low-dose and species-to-species extrapolation for chemically in-

duced carcinogenesis'; S. Abrahamson 'Estimating radiation-induced genetic disease burdens'; L. Ehrenberg 'Risk assessment of ethylene oxide and other compounds'; W.R. Lee 'Dosimetry of alkylating agents'; V. Ray 'Are benzene effects limited to the chromosomal level?'; L.R. Valcovic 'General aspects of comparative mutagenesis'. Furthermore the detailed discussion about the following subjects is published: 'Host-mediated assays'; 'Detoxication'; 'Ethylene oxide'; 'Estimating human disease burdens from test results'; 'Significance of chromosomal aberrations'; 'Need to state complexity of problems'; 'Ethylene oxide exposure'; 'Need for more human data'; 'Benefits from Ethylene oxide'; 'Priorities for immediate action'.

The Banbury Center was founded in 1978 as a site for small meetings on biological topics through the generous benefaction of Mr. Charles S. Robertson who gave his fine Georgian-style house together with the surrounding area to the Cold Spring Harbor Laboratory.

Already the first Banbury Report shows unambiguously that the creation of the Banbury Center will be very influential in developing the field of biological risk assessment.

R. Piechocki, Halle

**Remmert, H.: Ökologie, Ein Lehrbuch.**

Berlin-Heidelberg-New York: Springer 1978. 269 pp., 158 figs., 12 tabs. Soft bound DM 39,-

Among the dozens of textbooks on general ecology the present one is characterized by the fact that the author tries to use a readable understandable language. The avoidance of technical terms and mathematical tools will no doubt result in great popularity for this text, which it deserves. Besides well known facts many hypotheses are presented showing that present day ecology is in a stage of dynamic development. The input of many auxiliary sciences that have fertilized ecology makes it questionable as a genuine science. The causal formulation of a question in ecology mostly gets its answer from such so-called auxiliary sciences. In this context it is deplorable that the impact of population genetics in the book is poor, and is restricted to a short mention of mortality, polymorphism, genetic drift, competition and occurrence. The implications of interactions between species and breeding mechanisms as well as the pollinators in plants is missed. This is not surprising, because the author is a zoologist by origin, and this characterizes to a great extent the whole presentation. Apparently it is very hard for an ecologist to have a regard for organisms of primary production as well as the interactions between plants and animals in the reproduction and dispersal processes. The arrangement of the book, which is very well edited and illustrated with a great deal of new pictures, is classical: autoecology, population ecology, ecosystems. The dynamics of plant associations, about which a great deal on structural and physiological aspects is known, is not treated. Topics like epiphytism, fertilization barriers, and allelopathy are not, or insufficiently, treated. On the other hand, game biology, predator-prey systems, population dynamics of crickets and the importance of animals in ecosystems receive excellent treatment. The book reads well in unconventional language; starts with the theory of autoecology and ends with a warning on ecological quacks, who according to the author are increasing in number dramatically.

H.F. Linskens, Nijmegen