
Book Reviews

Hare, W.C.D.; Singh, E.L.: Cytogenetics in Animal Reproduction. England: Commonwealth Agricultural Bureaux 1979. 96 pp., 42 figs., Hard bound £ 13,20.

'Cytogenetics in Animal Reproduction' by W.C.D. Hare and Elizabeth Singh is the first comprehensive review of cytogenetics and its role in reproduction of domestic animals that has been published.

The first chapters are devoted to defining cytogenetics and explaining fundamental concepts. Different causes of reproductive failure and their cytogenetical background are systematically described and comprise the most central part of the book. For each cause of reproductive failure there is a key for diagnosis. There are also chapters on prenatal cytogenetic studies and animal hybrids. The book is rounded-off with descriptions of culture and preparation techniques as well as the most important banding and photographic techniques used in the authors' laboratory. Forty-two different illustrations – schematic drawings and karyotypes of different domestic animals – are compiled in the final section of the book, together with a very complete reference list.

This book is a very good introduction for the beginner in that it clarifies, in a logical and pedagogic manner, many fundamental concepts in addition to giving advice in different matters. At the same time, it is of great interest to the more advanced reader since it reviews the field carefully and contains a very extensive and complete reference list. Although there are a few printing errors, and as well the quality of some microphotos for different reasons is not very high, the book can be highly recommended. The book can be expected to fill a great need in cytogenetics of domestic animals, not only for students of veterinary medicine and animal breeding, but also for research workers and laymen.

I. Gustavsson, Uppsala

Vorontsov, N.N., Van Brink, J.M. (eds.): Animal Genetics and Evolution. Selected papers of the XIV International Congress of Genetics, August 21-30, 1978, Moscow. The Hague: Dr. W. Junk, B.V. Publishers 1980. 382 pp., 243 figs., 72 tabs. Hard bound Dfl 195,-.

This book is largely a collection of case studies of evolutionary events and trends as indicated by cytological studies. Within this generally creditable volume of work is a lot of speculation as to modes of evolution which should be of interest to those involved

in this field. There is also some valuable reading for the quantitative geneticist who feels that his classical guidelines are not of universal validity. One gains the impression that duplication of genome segments and other such phenomena might significantly augment allelic segregation in giving rise to genetic variation between individuals. An example of response to selection in a highly inbred population indicates a significant role played by novel mutations. For the casual reader there is too much overlap in subject material, but, for those with a deeper interest this book could prove to be a standard collection.

H. Skjervold, Ås—N.L.H.

F.J. Ayala, J.A. Kiger, jr.: Modern Genetics. Menlo Park, Calif.: Benjamin/Cumming Publ. Co. 1980. 844 pp., 447 figs., many tabs. Hard bound \$ 21.95.

'Modern Genetics' is a textbook intended to be used as an introduction into this fascinating science. The three fundamental features of genes: transmission, expression, and change, are respectively represented in the three main parts of 'Modern Genetics'. Part I deals with the organisation and replication of genetic material, including the Mendelian laws, the nature of genetic material, the eukaryotic and the bacterial genome, and also DNA replication, repair and recombination. Part II treats the expression of the genetic materials. These topics cover a range from the genetic code and genetic function to information transfer in cells and regulation of gene expression in both prokaryotes and eukaryotes. Part III is devoted to the evolution of genetic material. Population genetics and evolutionary genetics, which usually have secondary importance in compendiums of genetics, are treated in greater depth here, partially due to the fact that F. Ayala is an outstanding expert on this field.

At the end of each chapter the student will find problems which should facilitate his understanding and also provide new information.

A glossary and an extensive bibliography are also included. The concepts and methods of statistics included in the appendix are great aids in understanding the text. That this compendium is really up-to-date is shown by the fact that even literature from 1980 is cited. It is noteworthy that the book is excellently illustrated—this enhances the clarity of the text. The book is wholeheartedly recommended to all students of genetics.

Tröbner, Halle