
Book Reviews

Watson, P.F. (ed.): Artificial Breeding of Non-Domestic Animals. London: Academic Press 1979. 376 pp., 37 figs. Hard bound £ 16.00.

This book is an excellent and timely addition to previous publications on the breeding of wild animals in captivity. As the list of endangered species grows so will the requirement for establishing 'rescue' colonies in captivity or increasing the fecundity of the remaining population in the wild. To scientists who are used to working on laboratory or domestic species there is a surprising lack of basic information on the reproductive physiology of wild animals e.g. number of spermatozoa in the ejaculate, site of deposition of semen in the female and whether ovulation is spontaneous or induced. This book provides an answer to some of these problems and is a good source of current literature on the subject.

The standard of writing and presentation of tables and drawings is high and there are few errors in the text indicating careful and meticulous editing. Considerable guidance is given on the use of anaesthetics, and techniques of electroejaculation and semen collection are well documented in a number of chapters. Innovation and close observation of behaviour patterns seem to be the order of the day as demonstrated by one investigator who was able to imprint male falcons when they were chicks and then taught them to copulate with his hat. Unorthodox, but it worked! Unfortunately, the book is heavily biased in favour of the male with 15 chapters out of 22 devoted to semen and artificial insemination. This is only half the story and more space should have been devoted to the problems of ovulation, oestrus detection and receptivity of the female. An excellent account by D'Souza highlights these problems but the area warrants more attention than the 2 chapters out of 22 that are devoted to it. Equally surprising is the cursory space given to seasonality and photoperiodism despite the fact that most animals and particularly birds reproduce only during restricted periods of the year. Obviously the problems of photoperiod and photorefractoriness become important whenever species are moved artificially from low to high latitudes or vice versa.

A chapter on embryo transfer and 'embryo banking' illustrates the potential of this technique in the long-term but at present is very specialized and applicable to only a restricted number of species. In his concluding remarks, Skinner emphasises the importance of reproductive behaviour patterns in breeding wild animals in captivity and the need to maintain sufficient numbers of a threatened species in order to preserve the gene pool. Clearly more research is urgently required on these species to establish the basic facts on their behaviour and reproductive physiology so that if and when the need arises the proper corrective measures can be taken.

Therefore, despite its shortcomings of emphasis this book is thoroughly recommended to all conservationists and scientists concerned with animal breeding.

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Nover, L., Lynen, F., Mothes, K. (eds.): Cell Compartmentation and Metabolic Channeling.

Jena: G. Fischer 1980. 523 pp., 240 figs. Hard bound DM 82,-.

According to a tradition of the Deutsche Akademie der Naturforscher Leopoldina, the oldest German learned society still in existence, it is the responsibility of an academy to bring together the international scientific community in order to promote the exchange of ideas about basic problems in science. On this schema in Spring 1979 at the Reinhardsbrunn Castle in Thuringia (German Democratic Republic), a meeting was organized on the structural and functional organization of cells as a prerequisite of life. The calibre of the organizers, the late Fedor Lynen and the former president of the Leopoldina, Kurt Mothes, could only guarantee a symposium of high standards. The 120 participants from 18 countries received an impressive amount of information on the increasing knowledge on cell compartmentation in all its diverse aspects. This became especially clear in the excellent survey lectures. Evolutionary aspects of gene expression in macro compartments were given special emphasis. Most of the technical papers were concerned with the functional organization of metabolic chains and the metabolic and regulatory interactions between various cell compartments. Present knowledge is most complete for chloroplasts and mitochondrial compartments. Genetic aspects received extensive devotion under the subtitle 'Compartmentation and regulation of gene expression', with special emphasis on gene expression in eukaryotic cells. Experts in the area, such as H. Mohr, H. Bielka and F. Melchers, guaranteed high level presentations. Attention was also given to the role of compartmentation in cell morphogenesis and development, a field of research which promises to make the most interesting progress in the near future.

Most of the lectures given during the symposium were published within one year; a few manuscripts were not submitted in time. One has to be grateful to the organizers who were able to accomplish that feat. Unfortunately one must admire this feat with a bitter note of satisfaction: one of the organizers and initiators of this meeting, Fedor Lynen, did no more than see the book published before he died untimely. The Leopoldina lost an outstanding member and a distinguished scientist. These updated proceedings are a memorial to him.

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