

BOOK REVIEW

WILD MAMMALS IN CAPTIVITY : Principles and Techniques 1996.

Editors: Devra G. Kleiman, Mary E. Allen, Katerina V. Thompson and Susan Lumpkin.

Publishers: The University of Chicago Press, Chicago and London. Pages: 639.

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During the last 25-30 years, the zoo community has witnessed major advances in the management of wild animals in captivity. Tremendous volumes of research publications have appeared in various journals and proceedings. Many new journals and magazines, exclusively for covering zoo-based research, have been launched while many others have undergone major changes in their coverage of topics. International Zoo Year Book, Zoo Biology, Journal of Zoo and Wildlife Medicine, Journal of Zoo Animal Medicine, ZOOS' PRINT, Animal Keepers Forum, International Zoo News, Thylacinus and Ratel were either instituted or restructured mostly during the last 30 years. In spite of such a wealth of information on captive animal management, it is surprising to note that it has taken nearly 14 years to produce a book of this kind, since the AAZPA book on "Zoological Parks and Aquarium Fundamentals" (Ed: Karen Sausman, 1982). This was published in 1982.

This new book 'WILD MAMMALS IN CAPTIVITY : Principles and Techniques' could easily be labelled as the 'first of its kind book' on recent advances in zoo management. Written, reviewed and edited by 78 authors, this book has 48 chapters organized under 7 divisions, all well illustrated with photographs and sketches. The chapters have been reviewed by eminent scientists, conservation biologists, zoo managers, zoo designers, curators, veterinarians, animal nutritionists and zoo horticulturists from all over the world. To name a few: Jim Doherty of Bronx Zoo, Jon Coe of CLR Zoo Design Inc., John Eisenberg of University of Florida, Thomas Foose of International Rhino

Foundation, Terry Maple of Zoo Atlanta, Olav Oftedal, Mitchell Bush, Jonathan Ballou, Chris Wemmer, David Wildt and Jon Sidensticker (all from Smithsonian Institution) and many others.

All the 48 chapters in the book have been well organized

Part-I on Basic Husbandry Techniques has 9 chapters in it. It begins with a chapter on ethical and welfare issues, and moves over to chapters on preven-

nutrients and feeding of carnivores, herbivores and omnivores.

Part-III is on Exhibitory with 9 chapters focusing on exhibition concepts, exhibit design, horticultural philosophies, animal barriers, enclosure furnishing, mixed species exhibits, holding areas and aquatic animal exhibits. All chapters are worth reading but a special mention must be made about the chapter on mixed species exhibits. Citing many of the successful mixed animal

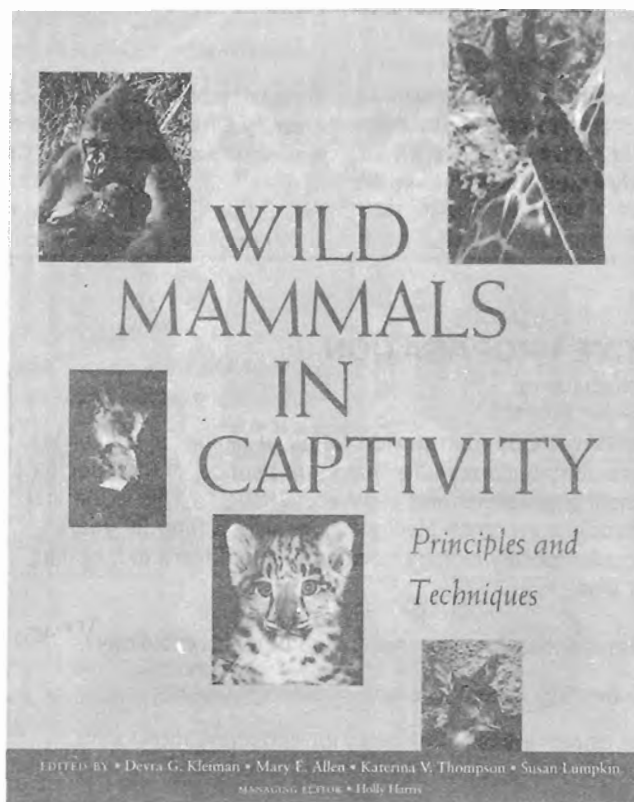
exhibits from different zoos, the authors (Thomas and Maruska) explain why, how and where such multispecies exhibits could be developed. However, I expected a little more information from the chapter on Zoo Horticulture. The contents of this chapter does not justify the recent advances made on zoohorticultural techniques. More so in this book because Jon Coe's comments in the very preceding chapter that landscape immersion approach has given a substantial impetus to the new profession of zoo horticulture.

Part-IV on Population Management and Conservation contains 7 chapters. Principles of application of genetic research in animal management, demographic and genetic management, dispersal of captive mammals, issues of surplus animals, reintroduction and role of zoos in

wildlife conservation form the essence of these 7 chapters. The chapter on Demographic and Genetic Management (by Ballou and Foose), which explains in detail the principles and techniques of managing captive populations without causing a decline in genetic diversity, is perhaps the most important chapter in this book.

tive medicine, anesthesia, hand-rearing, nursing techniques of young animals, identification and marking, animal socialization, animal training and lastly ending with a chapter on dealing with animal escapes.

Part-II on Nutrition has 5 chapters, the first two on nutrition and dietary evaluation and the subsequent ones on diets,



Part-V covers the interesting field of Animal Behavior. Besides covering all aspects of animal behaviour, there are extensive reviews on mammalian social organization, mating systems and play behaviour. The phenomenon of stereotypy and behavioural enrichment as a remedy for this aberrant behaviour has also been dealt in detail.

Part-VI covers the very important subject of reproduction. The readers will find the chapters on reproductive behavior, reproductive physiology and fertility control very useful to their day to day management. There are also chapters on pregnancy, parturition, parental care and growth.

Zoo research has been extensively covered in the last part. I am sure many zoo personnel, who are not keen on research, will get convinced of the need of initiating multidisciplinary research after going through the chapter by Benirschke. As he quotes "the cost of not doing research will be very high" if our goal is to successfully manage and breed threatened species. Perhaps the most important chapter in this part is the one on the methods of collecting data for doing behavioral research. This chapter has everything a zoo can look for while organizing behavioral studies. It has sections on sampling methods, types of behavioral categories to be observed, method of recording them and analyzing collected data.

A major feature of this book is that every part begins with an introduction and moves over to the fundamentals (of behaviour, reproduction, nutrition etc.) and subsequently on to specific topics. I can't think of any other subject being left out in this book.

More than 30 years have passed since Crandall's book on the management of captive mammals was published in 1964. It is hard to believe that no such book appeared during all these years. Considering the rapid advances in zoo management which took place in those years, it is as much of a gap -- relatively speaking -- as the seventy year gap between the first book on zoo management by R.B. Sanyal in 1892 and Crandall in 1954!

The editors of this 1996 book mention that it took 10 years for them to produce this 'first volume' on principles and techniques of management of wild mammals. Their plan is to produce more volumes covering mammals taxon wise, just like how Crandall did in 1964 and how Fowler produced his first two taxonomically organized volumes on Zoo and Wild Animal Medicine.

I consider this volume a must for all Indian zoos. There is abundant information for zoo managers, curators, veterinarians and all others concerned with the management and conservation of mammals in captivity. I hope that the Central Zoo Authority will make it mandatory for all large zoos to have a copy of this book in their library.

Review by N. V. K. Ashraf, Scientific Editor, ZOOS' PRINT and Deputy Director designee of Coimbatore Zoological Park and Conservation Centre, Coimbatore.

RESEARCH AND CAPTIVE PROPAGATION

Ü. Ganslöber, J.K. Hodges, W. Kaumanns

This volume reviews concepts and methods from a wide range of biological disciplines. Written by competent authors, the contributions relate important aspects of the species' biology to the management of small populations and captive breeding. This is the first overview, in a single volume, of zoobiology since Hediger's classical writing 30 years ago. It covers many aspects of contemporary biology, relating many of them to breeding endangered species for the first time.

Introduction: zoobiology and approaches for systematics and population biology.

Genetics: methods and approaches for systematics and population biology.

Reproduction: including the use of non-invasive methods for endocrine monitoring, ultrasound and modern reproductive technologies (Cryoconservation, artificial insemination, contraception).

Behaviour and ecology: adaptability and individuality in behaviour and life history, physiology of social situations, regulation of behaviour, imprinting, rhythms, welfare aspects and cognitive approaches.

Nutrition: Nutritional physiology and metabolism, functional morphology of the gastric tract, aspects relating to mineral and vitamin metabolism as well as ecological approaches and foraging strategies.

Miscellaneous: Problems of microtaxonomy, organismic approaches in veterinary medicine.

Can order direct from Ü. Ganslöber, J.K. Hodges, W. Kaumanns (eds.), **Research and Captive Propagation**, ISBN 3-9308:31-01-5, 338 pages, DM 49.80, Filander Verlag GmbH, Bremer Str. 21a, D-90765 Fjirth, Tel.: ++911/790 5893. Fax: ++911/790 5972
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