

Book Reviews

International Zoo Yearbook No. 39

Edited by FA Fiskén (2005). Published by The Zoological Society of London, Regent's Park, London NW1 4RY, UK. 395 pp Hardback (ISBN 0074 9664). Price £71.00.

The International Zoo Yearbook (IZYB) was first published in 1960 by the Zoological Society of London to provide an authoritative channel for international exchange of information about zoos. The work carried out by zoos is increasingly dependent on coordinated effort and shared results, not only amongst themselves but also with laboratories, conservation centres and similar bodies engaged in the study and preservation of wildlife. The *International Zoo Yearbook* has been both the medium and the reflection of this changing outlook.

This volume is the 39th, and it continues the tradition, following the same general style and layout of previous editions. It is divided into three sections, the first of which is devoted to a special subject with articles usually commissioned by the Editor. In this volume the subject is "Zoo Animal Nutrition". The second section includes original articles on aspects of captive husbandry and management, including reproduction and breeding, captive husbandry and behaviour all under the general title of "The Developing Zoo World". The third section is a reference section listing data and survey results collated from information in the annual questionnaires returned from zoos and aquariums around the world.

The *IZYB* begins with a Guest Essay entitled "The Future of Zoos and Aquariums: Conservation and Caring" by George Rabb and Carol Saunders from the Chicago Zoological Society based at Brookfield Zoo. This article assesses the roles that zoos and aquariums must play as conservation centres, both now and in the future. Zoos have been pushing their conservation objectives for more than two decades now, and many articles have been written about their growing involvement in wildlife conservation. For instance the last volume of the *IZYB* took as its general theme: "Zoo Challenges: Past, Present and Future", and as such included several articles which discussed their role in conservation. However, these usually focused on the ex situ and in situ conservation actions of zoos. What distinguishes the article by Rabb and Saunders in this volume is that it extends this role to include the concept of 'caring'. These authors argue that as conservation centres, zoos are actually centres of caring in respect of the natural world, and that fostering caring thus correlates with their roles as agents of conservation. Indeed, they maintain that moving people to caring actively for the environment in an ecologically sustainable fashion should be the ultimate goal for zoos as conservation centres. This is an interesting proposal and the authors make a convincing case as they link the success of the conservation actions of zoos to the need to reach their audiences to help them care about the natural world. However, as they also acknowledge, zoos have had little

experience in effectively changing the behaviour of their target audiences at either a local or global level, and that consequently there is a need for a far greater understanding of people's fundamental psychological relations to animals and nature.

This concept of 'caring' also links this article very much to an appreciation of animal welfare. One of the challenges ahead for zoological institutions as conservation centres is an increasing concern for animal welfare and animal rights. However, by fostering caring behaviour for animals and nature, zoos can, at the same time improve both their reputation for and the reality of their own concerns for animal welfare. This can be achieved in the short term by improving the standard of care for the individuals in their collections, and in the longer term through a sense of caring for whole populations, species and their environments. In this way, the authors conclude, we might then consider how best to utilize our institutions: "To foster societal control of the excesses of use of natural resources, and how to celebrate the miracle of all life so as to secure caring for all life in the natural world".

The first section of the *IZYB* then focuses on Zoo Animal Nutrition. It comprises 11 articles which reflect current research and progress in this field, and it includes a number of reviews and recommendations which emphasize the application of nutritional principles as an integral part of captive animal husbandry and management. For instance the first article discusses the development and advancement of zoo animal nutrition through global synergy. This means enhancing and promoting the dissemination of accurate nutritional information through the application of appropriate levels of electronic communication. As the author (E.S. Dierenfield) explains, "If balanced nutrition for wild animals in captivity at a global level is to be achieved, then a heightened recognition of the value of implementing science-based nutrition into animal-management programmes and enhanced levels of electronic communication is essential".

The second and third articles provide a guide to understanding and formulating diets for zoo animals. The first, by the late Dr Sue Crissey from Brookfield Zoo, presents a nutrition matrix which identifies the factors that need to be considered when formulating diets for wild animals in captivity, while the second reviews the processes by which animals fulfil their nutritional requirements. The authors argue that while size and morphology dictate gross diet, the ability to select a diet is learnt and offers considerable nutritional benefits to the animal. Consequently, they maintain that a suitable range of ingredients should be provided to captive animals to also allow them an element of choice, while at the same time serving as an effective enrichment technique.

There follows a number of articles which discuss advances in zoo animal nutrition for particular species, as well as methods of improving the supply and presentation of their diets. The section concludes with three more review articles which provide useful and relevant overviews of the current

state of knowledge of zoo animal nutrition. These include “Dietary Analysis for Mammals and Birds: A Review of Field Techniques and Animal-management Applications”, “Nutrition of Marsupials in Captivity”, and “Standardizing Nutrition Information within Husbandry Guidelines: The Essential Ingredients”. They should be invaluable to curators and keepers responsible for developing appropriate diets for the animals in their collections.

Section Two of the IZYG is entitled “The Developing Zoo World”, and as the name suggests, consists of a series of articles which describe recent advances and innovations in captive animal husbandry and management. In particular, this includes improvements in the reproduction, breeding and raising of captive endangered species. In total, 10 of the 12 articles in this section are concerned with this and only the articles about a mixed-species exhibit of Goeldi’s monkeys and Pygmy marmosets, and the daily activity budgets of captive and released Scarlet macaws can be said to be different. Perhaps this emphasis reflects the fact that most zoo professionals still see their main role as breeders of captive wildlife and hence as managers of self-sustaining captive populations.

The IZYG continues to be an interesting, useful and accurate mirror on the international zoo world. This one volume manages to pack in a variety of factual information about the world’s zoos and aquariums, zoo associations and international studbooks for rare species of wild animals in captivity. Its articles reflect current research and advances in aspects of captive wildlife husbandry, while the Guest Essay provides an insight into the continued development and objectives of the modern zoo. Consequently it is a book that I would recommend to anyone interested in zoos — their history, development, aims and objectives, and their role and continuing relevance in today’s society. It goes on making a valuable addition to our knowledge and understanding of just what we should expect from today’s zoos.

Andrew Tribe

School of Animal Studies

University of Queensland, Australia

Encyclopedia of Animal Behavior [Three Volumes]

Edited by M Bekoff (2004). Published by Greenwood Press, 88 Post Road West, Westport, CT 06881, USA. 528 pp Hardback (ISBN 1 313 32746 7). Price £200.00.

In the words of the editor, Marc Bekoff, the three volumes that make up this new *Encyclopedia of Animal Behavior*, comprise “the most complete and comprehensive collection of original essays on the topic of animal behaviour. There are no rivals in its breadth, depth, or scope”. Ignoring any lack of modesty, Bekoff deserves at least two cheers just for attempting such a major endeavour.

Each of the three volumes that together make up this encyclopedia runs to around 400 pages and in total there are just over 300 entries, with essays of between 300 and 7000 words on topics ranging from shoaling behaviour in

fish to the vocalisations of grasshopper mice. The book is indeed broad in scope and includes much material on animal welfare and animal rights, as well as a useful section on careers in animal behaviour.

Encyclopedias are tricky things to get right, though. The first and most obvious expectation that an encyclopedia has to satisfy is that the reader will be able to find, quickly and easily, information about the topics that they are interested in.

The other expectation of a ‘good’ encyclopedia is more subtle; it is that the information provided on any subject is up-to-date, impartial and accurate (you wouldn’t buy an atlas published by the Flat Earth Society to help your children with their geography homework).

So how well does Bekoff’s new publication measure up to these two criteria?

I couldn’t resist the temptation, when these volumes landed on my desk, to look straight away for entries on my own favourite subjects and animals. Nothing under ‘m’ for mara — well, that’s perhaps not too surprising, as not everyone shares my passion for obscure South American rodents. But nothing under ‘m’ for ‘methods’ either, nor under ‘g’ for ‘game theory’, nor ‘e’ for ‘extra-pair paternity’ — nor even under ‘p’ for ‘paternity’. Of course, some of these topics are mentioned in the text — they are just not listed in the index. One of the flaws that makes this encyclopedia less useful than it might be is that you have to try and second-guess the main subject heading before you can find the information you want. For example, ‘mate choice’ comes under mating, which in turn is (quite reasonably) located in a section on reproductive behaviour. But it takes a while to work all this out, by which time an impatient student may have chucked the book on the floor and logged onto Google.

I’ll come back to the second criterion — the impartial, accurate and objective material one — in a moment. More, first, on the index and, in particular, on topics that would appear not to merit an entry.

The content of the encyclopedia has a strong American flavour, so there are plenty of entries by and about ethologists hailing from the other side of the pond. Some of the Brits do make it into the text: Richard Dawkins merits an entry all of his own and Bill Hamilton is listed, but there is no mention in the index of either of the Ridelys, nor of Nick Davies, Tim Clutton-Brock, Tim Birkhead, Robert Hinde, Marian Stamp-Dawkins or Aubrey Manning. All of these contributors to the field of ethology are conspicuous by their absence (although there is an index entry for Fraser Darlin [sic]). To be fair to the editor, though, textbooks by Marian Stamp Dawkins, Krebs and Davies and Tim Clutton-Brock are listed in a special section on recommended reading, at the end of Volume Three.

Producing an encyclopedia like this is a huge endeavour and it is easy to be sniffy about omissions from the index. Of more serious concern is the variability in content, approach and standard of writing of the subject entries.