

REVIEW

International Zoo Yearbook — Volume 39

By Joeke Nijboer, Zoo Animal Nutritionist, Rotterdam Zoo

This volume of the *International Zoo Yearbook* (IZY) starts with an important guest essay written by George Rabb & Carol Saunders, who describe the changing role of zoos in the 21st century. Instead of the living museums that they were in the 20th century, more and more zoos will become environmental resource centres in which ecosystems and survival of species are supported. It is also proposed that, as possible agents for conservation, visitors to zoos should play an active role in this process.

Section 1 is devoted to zoo animal nutrition. Comparing the nutrition sections in this volume of IZY with that in the 'principles of zoo animal feeding' section in Volume 16 (1976) it is clear that the science of zoo animal nutrition has made huge progress. Nowadays zoo animal nutrition plays an essential role in the husbandry of exotic animals. In an article by Susan Crissey, the complexity of formulating diets is described using the Zoo Animal Nutrition Matrix, which suggests several components that need to be considered when developing diets for animals in zoos. Health status, nutritional requirements, food consumption, and management constraints and opportunities are regarded as key factors. It is made clear that zoo animal nutritionists should work closely with animal managers, veterinarians and keepers to provide the most appropriate diets. An article by Ellen Dierenfeld describes the importance of global communication and how necessary it is between people involved in nutrition. Advanced nutrition programmes, such as Zootrition™, the Internet and several organizations support communication and the exchange of information.

According to Andrea Fidgett, who did an excellent job of coordinating the nutrition chapter of this volume, zoo animal nutrition is getting more important, not only in America but also in Europe. After the first European Zoo Nutrition Conference, held in Rotterdam in 1999, European zoo nutritionists took the initiative in formulating nutrition guidelines as part of husbandry guidelines, comparable to the work carried out by their North American colleagues. According to this article the husbandry guidelines for many Species Survival Plans (SSPs), European Endangered Species Programmes (EEPs), European studbooks and Taxon Advisory Groups (TAGs) now contain a brief food/nutrition chapter.

This volume of IZY also contains interesting articles on specific nutrition topics; for example, calcium homeostasis in lizards and freshwater turtles, the analysis of the maintenance diet offered to lorries and lorikeets, and the diet of the Purple-bellied parrot. Professor Ian Hume, one of the main specialists in marsupial nutrition, summarizes the nutrition of marsupials in captivity. Instead of a trial-and-error approach that has been applied in the past, the information presented can be used to formulate appropriate diets for these animals. The other articles in this section also illustrate that zoo animal nutrition is a key factor in the husbandry of exotic animals in captivity.

In 'The Developing Zoo World' section nutrition remains an important consideration in articles about husbandry and/or reproduction in Anegada Island iguana, Kori bustard, Striped possum, Aardvark and Okapi. For those whose first interest is not nutrition there are also some fine articles on Goeldi's Monkey/Pygmy marmoset, Gorilla, Maned wolf, Polar bear and Asian elephant.

In my opinion Volume 39 of the *International Zoo Yearbook* is a must for institutions and individuals interested in exotic animals, and especially for those who want to know the current status of zoo animal nutrition.

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