

lucky ones limp away forever maimed. Despite their special importance, tigers are trapped for zoos, shot for sport or protection, and trapped for their skin and bones. Their prey, especially wild pigs, are consumed by humans, and tigers must compete with Amur leopards for food, and their habitat is continually encroached upon or cleared and shipped away. All humans know that dead trees are worth more than live ones, and the Russian Far East is no exception. Some will find the killing of tigers objectionable. They need only skip the even numbered, translated chapters. We learn that today tigers are now subsisting on scant wild prey and domestic dogs, one of the few subsidies humans have unintentionally provided them.

Thus, *Amur Tiger* is a timely book about a vanishing subspecies and indeed other equally rare and beautiful subspecies such as the Amur leopard, and the monumental efforts conservationists are making to save these species from extinction. While the author 'has studied Amur tigers', in reality he comes and goes as a visitor. The groundwork on conservation is being undertaken by resident biologists, both native and foreign, who have for many years dedicated their professional endeavours to addressing the conservation crisis in the Russian Far East. Moreover, by the length of the list provided in Appendix 3 of NGOs and other organizations working in the region there is doubtless no end to the political crises that these conservationists must endure.

Although the Publisher's Note states that the chapters can be read in any order, I would not recommend this approach. Why would we read about the future without first understanding the past? The even numbered chapters (the translated stories of the past) can, however, be read without reading any other chapters and indeed specialists might find these stories entertaining and interesting in their own right. There were a few typographical errors that should have been caught during editing. 'We swopped ideas' in the tiger monitoring chapter was my favourite. Also, I found the repeated use of terms like 'different kinds of tigers' and 'main kinds of tigers' to be a bit annoying. Why not explain the scientific term 'subspecies' and use it throughout? Surely readers of *Amur Tiger* understand that the island tigers of Bali, Java, and Sumatra, for instance, are all subspecies of tigers.

Additionally, I found most frustrating several cryptic references to something called the 'small forest cat'. This small cat was not given in the list of mammals in Appendix 1, though it is indeed a mammal, and it has no Latin name in the text. Most readers will not give this treatment a second thought. However, being a small cat specialist for the IUCN Cat Specialist Group I cannot let this omission pass so lightly. This cat, no bigger than a house cat, can only be the very interesting Amur leopard cat (presently *Prionailurus bengalensis* and lumped with

the common Leopard cat of Asia) that the Russians still maintain to be a separate and distinct species of cat.

In the end anyone that reads this little gem already hopes that the Amur tiger can be saved from extinction. However, hope will clearly not be enough to ensure the Amur tiger survives.

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The Return of the Unicorns: The Natural History and Conservation of the Greater One-Horned Rhinoceros by Eric Dinerstein (2003), xviii + 316 pp., Columbia University Press, New York, USA. ISBN 0 231 08450 1 (hbk), £36.00.

Saving the species of *Rhinoceros* is one of the most difficult conservation challenges faced by us today. Ironically, rhinos were remarkably successful and widespread animals throughout their 40 million year evolutionary history. Rhinos that survive now (three species in Asia and two in Africa) all number in only dozens or hundreds at best, due to relentless poaching and habitat encroachment.

Beginning in 1984 Eric Dinerstein, who now leads conservation science at WWF-US, undertook the definitive ecological study of the Asian greater one-horned rhinoceros. Starting as a single research project, Dinerstein's work then blossomed into a long-term investigation of the flood-plain ecosystem and, ultimately into a pioneering conservation initiative. His account of this journey is breathtaking in its scope: it spans the evolution of *Rhinoceros*, brief accounts of all surviving species, and is a major *tour de force* on the ecology of the greater one-horned rhino. Dinerstein also skilfully manages to weave into his tale fascinating strands of ecological theory and personal anecdotes. If he had just stopped at this point, the book would still have been a solid reference volume of great value to students of wildlife ecology. But fortunately he does not. Driven not just by scientific curiosity, but also by his childhood passion for wildlife, Dinerstein goes on to blend into this tale the history of the efforts to save the mighty beast – the *Gaika* of the Himalayan *Terai*. His conservation history rests not just on solid ecology but also on deep personal insights into the sociology of practising conservation in Asia.

A fascinating aspect of *The Return of the Unicorns* is the manner in which Dinerstein critically analyses contentious issues in ecological theory and conservation practice: evolution of life-history traits in mammals, importance of genetic versus demographic factors in

species recovery, and the merits and demerits of 'ecotourism' and 'eco-development'. He weaves all these complex issues into 12 chapters of text backed up by several data-rich appendices. The book is profusely illustrated with informative photographs, diagrams, graphs and maps.

The author has tried to follow George Schaller's advice to conservation scientists: 'Natural history provides the basis for understanding the requirements of a species, something that researchers often disregard in this age of remote-sensing and computer modelling. Yet describing an animal is not enough: a researcher today also has a moral responsibility to help the species endure.' Dinerstein has succeeded admirably in his mission, this book is essential reading for all ecologists and conservationists.

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Biodiversity: An Introduction (Second Edition) by Kevin J. Gaston & John I. Spicer (2004), xv + 191 pp., Blackwell Publishing, Oxford, UK. ISBN 1 4051 1857 1 (pbk), £19.99.

This book has been revised and updated only 6 years after the first (1998) edition due to (1) rapid progress in understanding many key issues, (2) large increases in the literature on biodiversity, (3) changes in university course structure from a taxonomic to a biodiversity approach, and (4) little/no reduction in the level of threat to the variety of life on Earth. The book is divided into six chapters. Each has a small summary and a useful, annotated list of references (mostly books) for further reading. The articles cited in each chapter are all listed together at the end of the book. All chapters are illustrated with clear, straightforward, black-and-white diagrams and graphics. There is also an index.

Chapter 1 (What is biodiversity?) covers ecological, genetic and organismal views of biodiversity, the strengths and weaknesses of different species concepts, and the use of species richness to measure biodiversity. It is the only chapter to give some internet sources. Chapter 2 (Biodiversity through time) uses information from the fossil record and from molecular data to provide a brief history of biodiversity, covering diversification and extinction. A section of this chapter tries to answer the question 'How many extant species are there?' Chapter 3 (Mapping biodiversity) is the longest chapter and gives an excellent overview of the many different ways of viewing and measuring biodiversity. Using species-area

and local-regional richness relationships, the authors explore biodiversity using the biological realm, biogeographic region, hotspot and endemism perspectives, noting that we still know relatively little about the biodiversity of tropical forest canopies, soils, coral reefs and the deep ocean. How biodiversity varies across latitudinal, elevational and depth gradients and across peninsulas and bays is also covered. The chapter ends with consideration of congruence, or rather its lack, between species richness of different taxonomic groups. The chapter contains many diagrams that clearly illustrate the concepts and relationships. Chapter 4 (Does biodiversity matter?) covers direct use values (food, medicine, biological control, industrial materials, recreational harvesting, ecotourism) and indirect use values (ecosystem functioning) as well as non-use values (option, bequest, existence and intrinsic values) of biodiversity. This chapter on values is followed by one exploring human impact. The impact is, of course, negative. The chapter focuses on species loss, exploring the level of loss and then the four principal proximate causes: overexploitation (for example of bushmeat, fuelwood, marine fisheries), habitat loss and degradation (including climate change), introduced species and extinction cascades. The ultimate causes of human impact – human population size, population growth, scale of human enterprise – are also explored. This chapter lastly sets out human impact on primary production (we use about 40% of it from terrestrial sources), energy use and water use (>25% of terrestrial evapotranspiration, >50% runoff) from growing per capita consumption. The final chapter (Maintaining biodiversity) focuses on the Convention on Biological Diversity, in particular on Articles 6 (general measures for conservation and sustainable use), 7 (identification and monitoring), 8 (*in situ* conservation), 9 (*ex situ* conservation), 10 (sustainable use of components of biological diversity) and 11 (incentive measures). The authors conclude that until significant progress is made in establishing specific targets and reporting protocols (to judge progress), biodiversity will continue to decline as a consequence of human activities.

The authors state that their goals for both editions of this book are the same: to provide a text giving an introduction to biodiversity and to present an entry point into the wider literature on biodiversity. They have more than met their goals and this book will be useful not just for university students but also for people working in conservation and advocacy organizations, in zoos and aquaria, and the media.

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