

Publications

Primate Conservation Biology edited by G. Cowlshaw & R. Dunbar (2000), xi + 498 pp., ISBN 0226 11636 0 (hbk), \$75.00, £47.50, 0226 11637 9 (pbk), \$27.00, £17.50, Chicago University Press, Chicago.

In an extraordinary and excellent first synthesis Cowlshaw and Dunbar review and discuss the diverse aspects of conservation biology and apply them to the non-human primates. The diversity of primate size, from the diminutive mouse lemurs to the gorillas, and of diet, social systems and habitats, combine to provide rich challenges for the science of conservation biology. The larger primates are widely hunted, many of the smaller ones are prized for commerce and the pet trade, and all suffer from habitat loss. Even where their forests remain, subsistence and commercial hunting in West and Central Africa and South-east Asia are resulting in vast areas of silent and empty forests. The 2000 IUCN Red List of Threatened Species classifies 134 primate species and 224 species and subspecies as threatened.

The first six chapters review the essential features of primate biology. In Chapter 2 on primate diversity Cowlshaw and Dunbar's number of 230 species is an underestimation. The number today exceeds 300 and is increasing; 36 primates were described in the last 10 years, and many more have been resurrected. Although they rightly emphasize populations as the target for conservation action (Chapter 6), they do not consider subspecies. Biodiversity conservation has given new life to taxonomic revision and inspired a healthy return to species conservation, spurned for much of the 1980s and early 1990s. The lack of interest in subspecies as targets for conservation efforts undoubtedly contributed to the almost certain demise of Miss Waldron's red colobus *Procolobus badius waldroni*. Subspecies do matter, and all recognized forms of primates should be the targets of conservation strategies and priorities. Including subspecies, more than 600 primates are recognized today, more than doubling the challenge presented in this book.

Pertinent aspects of behavioural ecology are succinctly reviewed in Chapter 3, as are species richness, community structure, competition, and associations between primate and plant communities in Chapter 4. The review of geographical distributions, abundance and rarity (Chapter 5) is stimulating and thought-

provoking. A relatively long Chapter 6 covers aspects of population ecology and dynamics, essential to an understanding of the capacity of each species for growth, resilience and resistance to threats.

The next chapters cover conservation biology. They examine our still limited understanding of the intrinsic factors that influence extinction risk (Chapter 7), and then provide solid discussions of the key causes of threat: habitat disturbance (Chapter 8), and hunting and trade (Chapter 9). The next section looks specifically at conservation strategies, including considerations of strategy design, taxonomic and regional prioritization (Chapter 10), and conservation tactics such as protected areas, sustainable use, captive breeding and translocation and reintroduction (Chapter 11).

The final chapter (12) helps to pull together the vast amount of information provided in the book, and covers their conclusions regarding past and future primate diversity, the diagnosis of populations in trouble, what they consider effective conservation action, and the need to find unique solutions, case-by-case based on correct diagnoses. There is a table of the 13 primate species in the Critically Endangered category of the 1996 IUCN Red List of Threatened Animals: four in Madagascar, four in Asia and five in South America, as examples of those 'unlikely to survive far into the first century of the new millennium'. Four years on, the 2000 IUCN Red List of Threatened Species lists 26 – one in Africa, nine in Madagascar, seven in Asia and nine in Central and South America – a number which is doubled again when subspecies are also considered.

The reader is reminded of three examples of conservation successes – the golden lion tamarin in Brazil, the Rhesus macaque in India and, more incipiently, the primates of Bioko Island off the coast of West Africa. I was hoping for more success stories. The authors insist on 'the importance of developing unique and multiapproach solutions to each conservation problem', while learning by example, and that knowledge of tried-and-tested failures and successes are powerful aids to conservation enterprises to save primate populations. An excellent example comes from the conservation programmes for the four lion tamarin species. In one, heavy emphasis was given to research on the species, in another those involved were not even biologists – they would see lion tamarins only by chance, while working

diligently and brilliantly to save their forests. Both programmes are highly successful: one recording the thousandth birth, the other enlarging and creating protected areas.

Each chapter has a small introduction and a concise summary. Appendices list primate species and their conservation status according to the *1996 IUCN Red List of Threatened Animals*, describe the use of Leslie Matrices to estimate future size and composition of populations based on data from life tables, and give the names and addresses of primate and conservation organizations. There is an extensive reference list of more than 50 pages, a most valuable resource alone, attesting to a conscious attempt to make a very thorough and exhaustive evaluation.

In their introduction the authors state that their purpose in writing the book is to contribute to the conservation process, with the focus on primates but with the aim of drawing on all 'the diverse aspects of conservation and evolutionary biology that have emerged during the past few decades' in the hope of advancing the broad field of primate conservation biology and at the same time feeding the lessons learnt back into the discipline of conservation biology. They succeed. However, the large amount of detail provided in this work of scholarship leaves me with a nagging doubt. Really, all we have to provide for the primates is a home and enough food! Why should all this information, packed densely, learnedly and brilliantly into close to 500 pages, be necessary for us to be able to do this?

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The Forest Flora of Taraba and Adamawa States, Nigeria: An Ecological Account and Plant Species Checklist edited by J.D. Chapman & H.M. Chapman (2001), xiv + 146 pp. + 75 pp. appendix, ISBN 0473 07419 2 (pbk), University of Canterbury, Christchurch, New Zealand.

This book, as noted by Nigel Hepper in his foreword, is an historic document. Historic in the sense that it provides a very detailed description of the forest fragments in the north-eastern part of Nigeria, near the Cameroon border, as they were in the 1970s, when Jim Chapman worked in the area as a Forest Officer. The book not only describes the forests as they were at that time, but it also looks back at the history of botanical investigations in the area (which only began in 1947),

and gives an indication of present conditions by including notes from recent visitors.

The Chapmans' book makes a valuable contribution to the botany and plant ecology of a little-known area, one that includes Nigeria's highest mountains and the large Mambilla Plateau. In seven descriptive chapters following an introduction, each patch of forest larger than about 100 ha that survived in north-eastern Nigeria 30 years ago is described (along with some even smaller fragments). As well as giving details of forest structure and plant-species composition, there is information on climate, geology and soils. Forest ecologists will probably find especially useful the tabulated results of enumeration plots, with accompanying profile diagrams. There are also notes on wildlife, a list of Red List plant species, copies of some hard-to-find reserve gazettelement orders, and an annotated checklist of all the plant specimens collected by the authors.

Although the book is not written for a general conservation audience, it has importance in the conservation literature of West Africa. The montane forests that feature prominently in the Chapmans' account are the northernmost extension of the Cameroon Highlands region, a region that contains large numbers of endemic plant and animal species but that is everywhere under pressure from an expanding human population and associated agricultural activity. The Chapmans' book, which is profusely illustrated with the authors' black-and-white photographs, shows how little forest now remains in areas such as the Mambilla Plateau. Hundreds of years ago, most of the 3000 sq km plateau (elevation 1070–1910 m) was probably covered with forest. Now, only small fragments of the Mambilla forest remain, of which the largest is Ngel Nyaki (about 46 sq km). Less than one per cent of the total land cover of Taraba and Adamawa States is forest, and this forest is still being whittled away by farming and logging, and by fire. Fire is a particular problem on the upland plateaus that are now largely grass-covered and are overstocked with cattle. Not only does excessive burning erode surviving forest fragments, but it is also threatening some unique grassland communities.

Until recently, the much-publicized bushmeat trade that has depleted wildlife in the forests to the south of this area had had less impact in Taraba and Adamawa. When the Chapmans visited the Akwaizantar forest in 1978, chimpanzees showed more interest than concern at their intrusion. Although I found that chimps were still present in Ngel Nyaki in 1995, and Katherine Gonder saw them at Akwaizantar in 1997, hunting of all the larger game in these forests has increased in recent years, and traditions that once protected primates seem

to be fading. Part of the area described by the Chapmans is now in Nigeria's largest National Park, Gashaka Gumti, but even the park's wildlife faces serious threats from poaching.

This book provides a benchmark against which today's conservationists can potentially measure the impact of environmental pressures on north-eastern Nigerian forests over recent decades. Let us hope that it will stimulate more outside interest in this area, and lead to some of the more important forest fragments that remain outside the national park (such as Ngel Nyaki, Akwaizantar and River Amboi) receiving better protection for their flora and fauna before it is too late. It will be tragic if the Chapmans' book becomes just an historical document, providing the only surviving evidence of once-fascinating ecosystems.

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Animal Minds. Beyond Cognition to Consciousness edited by D.R. Griffin (2001), xvi + 355 pp., ISBN 0226 31865 0 (pbk), £17.50, University of Chicago Press, Chicago.

In 1976 D.R. Griffin wrote his first book about the possibility that animals might think. Since then he has written many more texts on the subject and has encouraged research into what was previously considered to be a completely taboo subject. He is considered to be the father of the field of cognitive ethology, and has devoted much of his research career to collecting evidence that animals do indeed think.

Animal Minds provides a colourful journey through the world of animal behaviour from ants to apes, and reviews the evidence for and against consciousness in animals. The book begins with a discussion of the history of the study of animal consciousness, including the counter arguments that have been raised and the reluctance of many behavioural scientists to accept that animals are capable of thought. Most of the rest of the book is devoted to reviews of the vast array of animal behaviour, focusing on examples that Griffin claims illustrate that the animals are thinking about their actions. Some of Griffin's examples are very convincing, and the most parsimonious explanation for certain behaviours does seem to be that the animals are indeed thinking, if on a very simple level, about some of their actions.

This middle portion of the book is an entertaining and fascinating description of the complexity and diversity of animal behaviour. However as a self-confessed

behavioural scientist I found myself irritated by the repetitive comments regarding the closed-mindedness of those that study animal behaviour, and his accusations that they are incapable of considering the possibility that animals can think for fear of ridicule by their peers.

The final chapters of the book look at the philosophical, ethical and scientific significance of animal consciousness. These considerations put the discussion of whether animals can think into context and highlight some of the implications of the growing evidence that at least some animals are capable of thought some of the time. This final discussion is very interesting and moves the goal-posts of the consideration of animal thought by asking whether animals are conscious of their own thoughts and if so whether and how much this should then influence the human treatment of animals.

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Microchiropteran Bats: Global Status Survey and Conservation Action Plan compiled by A.M. Hutson, S.P. Mickleburgh & P.A. Racey (2001), x + 258 pp., ISBN 28317 0595 9 (pbk), Species Survival Commission Chiroptera Specialist Group, IUCN, Gland, Switzerland & Cambridge, UK.

Ten years after the publication of *Old World Fruit Bats – An Action Plan for their Conservation*, this Action Plan completes the global survey of all species of Chiroptera with an assessment of the 834 species of Microchiroptera. Part 1 covers the biology, ecology and systematics of the group, including a complete Red List. Part 2, Conservation Issues, includes a discussion of the threats to microchiropteran bats, legal protection, conservation recommendations (including 20 individual species Action Plans) and summary Red Lists by country and threat category.

Antelopes. Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans compiled by D.P. Mallon & S.C. Kingswood (2001), viii + 260 pp., ISBN 2 8317 0594 0 (pbk), Species Survival Commission Antelope Specialist Group, IUCN, Gland, Switzerland & Cambridge, UK.

This Action Plan follows on from Parts 1–3 published in 1988–1990, which dealt with the antelopes of sub-Saharan Africa. Part 4 consists of three sections: the Introduction has one chapter each on the objectives of the antelope

survey and the classification of antelopes adopted for the survey, Section 2 contains 37 country reports that range geographically from Morocco and Algeria in the west to Mongolia, China, Lao, Vietnam and Cambodia in the east, and Section 3 contains one chapter each on the regional status of antelopes and the regional action plan. There are three appendices, one of which summarizes the status of individual species in the region.

Animal Ecology edited by Charles Elton (1927), with new introductory material by M.A. Leibold & J.T. Wootton (2001), lvi + 209 pp., ISBN 0226 20639 4 (pbk), £13.00, University of Chicago Press, Chicago.

This is a reprint of Charles Elton's well known seminal work, published in 1927 when he was 26 years old, with 43 pages of new introductory material, including 11 pages of references. Leibold and Wootton provide a brief commentary on each of the original 12 chapters. These 'introductory essays' provide references to more recent studies, thus helping to put Elton's work into perspective.

A Different Nature. The Paradoxical World of Zoos and their Uncertain Future edited by D. Hancocks (2001), xxii + 280 pp., ISBN 0520 21879 5 (hbk), \$35.00, £19.95, University of California Press, Berkeley & Los Angeles, California.

In this book David Hancocks, Director of the Open Range Zoo at Werribee, Australia, provides a critical examination of the history, status and role of zoos. He proposes in the preface that we need '...to *uninvent* zoos as we know them and to create a new type of institution, one that praises wild things, that engenders respect for all animals, and that interprets a holistic view of Nature.' The book consists of nine chapters and a 10-page bibliography. In the first six chapters (Collections as Status, The Eighteenth-Century Phenomenon, Romanticists and Modernists, Toward new

Frontiers, and Immersed in the Landscape) he provides a chronological history of zoos. Chapter 7 (Agents of Conservation) is devoted to the role of zoos in conservation, and Chapters 8 and 9 (Which Way the Future? and Epilogue) outline his proposal to 'uninvent' zoos.

Biodiversity of the Caucasus Ecoregion: An Analysis of Biodiversity and Current threats and Initial Investment Portfolio edited by V. Krever, N. Zazanashvili, H. Jungius, L. Williams & D. Petelin (2001), 132 pp., ISBN 594398 005 9 (pbk), World Wide Fund for Nature.

Produced jointly by WWF-Georgia and WWF-Russia, this book consists of four parts: An overview of the Caucasus ecoregion, an examination of investment priorities for conservation of biodiversity in the ecoregion, national priorities for biodiversity conservation in Armenia, Azerbaijan, Georgia and the Russian Federation, and, in the fourth part, five appendices and three attachments. The appendices include a list of projects and separate lists of rare and threatened species of plants and animals in the Caucasus countries.

Carnivore Conservation edited by J.L. Gittleman, S.M. Funk, D. Macdonald & R.K. Wayne (2001), xiv + 675 pp., ISBN 0521 66232 X (hbk), £90.00, ISBN 0521 66537 X (pbk), £34.95, Cambridge University Press, Cambridge, UK.

Following an introductory chapter by the editors, entitled *Why 'carnivore conservation'?*, the 24 chapters of this substantial work are divided into three sections: Problems (9 chapters), Some applications and solutions (7 chapters), and Prospects for research and conservation (7 chapters). No less than 50 researchers have contributed to the book. Cited literature is assembled collectively, in 19 pages, for all chapters – always a blessing in an edited work.