

overcome – and the book is by no means overpriced compared with most bird books as lavishly illustrated as this – and also the problem of how to use it in the desert, it will become the ornithological bible for many future bird-watching visitors to Arabia.

RICHARD FITTER

Butterfly Watching by Paul Whalley. Severn House, £7.95.

This book provides a refreshing approach to capture the interest of both young and old in our butterfly fauna. Throughout, it opens up avenues for the enquiring mind. The author traces man's interest in butterflies, their position in the animal kingdom, classification and nomenclature, characteristics of individual families, their life history, habitats and behaviour. Assuming little or no knowledge his emphasis is on amateur observation and he looks at Britain's species in the context of the European butterfly fauna.

The differences in the habits and times of appearance of the British populations of the limited number of species found in Britain is not always clear. For example, the text refers to a spring brood of silver-washed fritillaries (which in Britain have only a summer brood). The caption to the excellent photograph of the Apollo butterfly, the only non-British species photographed, describes it as 'very rare in Britain', and for some species the times of appearance are more akin to those experienced on the continent. But the few inaccuracies should not diminish the value of the book, which is not a field guide. The later part deals with practical field observation and has a few pages, by Heather Angel, on butterfly photography. The chapter on conservation is realistic also.

Heather Angel's photographs of butterflies in their natural setting are excellent, as are Richard Lewington's drawings, which are realistic both for size and identification. Not every species is illustrated. The appendices include a checklist of both trivial and scientific names, food plants mentioned in the text (unfortunately without a cross-reference), a few useful addresses for major societies and recording schemes, further reading and projects for study (cross-referenced to the text). In short, a worthy and stimulating book for the lay person.

ALAN KENNARD

International Zoo Yearbook, Vol.20, edited by P.J.S. Olney. Zoological Society of London, £21 hardback, £18 paperback.

Whipsnade, Captive Breeding for Survival, by Elspeth Huxley. Collins, £8.95.

Wildlife Conservation and the Modern Zoo, by Gordon Woodroffe. Saiga Books, £8.50.

The International Zoo Yearbook has been an invaluable guide for everyone interested in zoo conservation of species, and Volume 20 contains the Proceedings of the Third World Conference on the Breeding of Endangered Species in Captivity which was co-sponsored by the Zoological Society of San Diego and the Fauna Preservation Society (as it was then known). The most notable aspect of the Conference was that it did not merely consider the difficulties and opportunities for reproducing various species, but addressed itself to some of the real problems surrounding the relatively new role of zoos as a major conservation force. Papers centred on such topics as how to maintain sufficiently large populations of adequate genetic diversity. Thoughtful papers on demographic management and the deleterious effects of inbreeding were followed by others on the establishment of breeding consortia, inter-zoo co-operation, and one by Thomas E. Lovejoy posing the question – 'Which species will zoos have the facility to save and which must be condemned to oblivion?' Finally in a brilliant paper, William G. Conway, General Director of the New York Zoological Society, placed in perspective the tasks ahead and compared the magnitude of our aspirations with the

paucity of our resources. Volume 20 is essential reading for all with a serious interest in the future of non-human species.

The two other books are directed more to the popular market. Both will do much to stimulate interest in zoos, correct many misconceptions, and further understanding of the zoos' role.

Much of Elspeth Huxley's *Whipsnade* is given over to discussion of conservation in zoos and in the wild, in a by no means uncritical fashion. She is concerned with the problems of reintroduction and the dangers of genetic change in species held in captivity for many generations. I think she overstates the problems in both these areas, for, given suitable protection, space and resources, a great many species can be successfully reintroduced. Genetic change has already been guarded against by professional zoo keepers, but again, resources are a problem, as she acknowledges in the last paragraph where she refers to the last animals of now extinct species which died in zoos, and the number of first-time captive breedings in British collections.

Gordon Woodroffe attempts to deal not only with conservation in the modern zoo, but also with the history both of zoos and of the many mainly mammal species both in the wild and in zoos. He has allowed too many errors to slip into print, some, I suspect, because sections were written some time ago. He gives the present Przewalski horse numbers in captivity as 250 in 52 collections, whereas according to the Studbook issued on 1 January 1981, there were 399 horses in 74 collections. He recognises only seven subspecies of tiger, missing out the *Panthera tigris corbetti*, and calls the Australian Taronga Park Zoo 'Tarragona'. Nevertheless, for the general reader this is a very readable book. He makes a strong plea for adequate support of the good zoos and control of those that fail to live up to the standards he rightly demands.

J.M. KNOWLES

American Wildlife Law, by Thomas A. Lund. California UP, £7.75.

A Londoner is reported to have described a wilderness as 'a large damp place where wild birds fly about – uncooked'. One of the virtues of Thomas Lund's study is its recognition that such pragmatic motives have helped to protect the same wildlife that is savoured. This in turn requires those with aesthetic, ethical and ecological interests in wildlife to make a deferential nod towards the accomplishments of the hunting fraternity. The author closes with a plea for 'cheerful cooperation' between these two principal protagonists of wildlife policy to stave off the new antagonist, economic development.

His entertaining description of each English wildlife law will be an eye-opener for the many who believe ecological concerns sprang forth full-grown during the last few decades. Of particular interest was the difficulty of transplanting English solutions to the barbaric American setting. The Americans were forced to abandon an aristocratic and undemocratic the most effective regulatory technique (the qualification system which limited take to people of wealth and position), while at the same time the country lacked a popular consensus that game laws deserved to be enforced. The result was the decimation of what had appeared to be an endless bounty of game before the ingenious US alternative to limit take, the prohibition of commercial hunting, was devised.

The problems of the early American system provide insight to those concerned today with conservation in other developing countries. The lesson is that, whatever our personal orientation, we cannot afford to overlook any of the multiple goals of Wildlife law identified by Lund: sustained harvest, weapons control, class discrimination or wildlife rights; nor can we be overly cavalier about the impact which different social settings can have on what are elsewhere successful solutions to wildlife conservation.

This study is full of humorous anecdotes and, as a result of the obsession of lawyers for footnotes, of obscure leads worthy of further investigation. It provides an interesting companion piece to Michael Bean's definitive *Evolution of Natural Wildlife Law*, which is indispensable for any conservation practitioner.

R. MICHAEL WRIGHT