proper references. While no informed person would dispute the relevance or sincerity of the author's concern, the reader may justifiably feel that what we now need are realistic solutions and not yet more admonishment. My fourteen-year-old son was exaggerating no more than is normal in the young in observing, 'There is nothing here we haven't known about for a hundred years; but what shall we do about it?'

F. B. O'CONNOR

The Lives of Bats, by **D. W. Yalden** and **P. A. Morris.** David and Charles, £6.50.

'Of all the known species of mammal, one in five is a bat. Yet far from being everyday animals bats remain creatures of mystery, the subject of more prejudice and misinformation than almost any other group of animals.' These are the authors' opening words. The mystery has undoubtedly been due to the secretive habits of bats, preventing naturalists from making observations, so that relatively few publications have appeared in the past century, and successive generations, lacking basic information, have overlooked this fascinating group. It was only in the late 1930s that a number of people in Europe and the USA began studying bat natural history. Research gained momentum in the 1950s, but the results were published in scientific journals and general readers were still without an authoritative work.

Recognising the gap, Yalden and Morris set about the task of reviewing and digesting all bat literature and regurgitating the information in this ordered and highly readable book. They cover all aspects of bat natural history – structure and evolution, diverse food and feeding habits, mechanics of flight, hibernation, specialised reproduction and behaviour, population studies and migrations. Even the most difficult aspects to make readable and understandable, the echo-location mechanisms that bats use for navigation and feeding, are presented in a form that anyone can follow. The penultimate chapter adequately covers the interactions of bats and man, both beneficial and detrimental aspects, and describes the conservation problems facing the temperate bats particularly. Finally the established 17 families of bats are described and illustrated, and the newly discovered 18th family, described in 1974, is mentioned. Bats are predominantly tropical animals' but, as this book shows, most information has been gathered about temperate, species. Every year new species are being discovered and probably many species have died or will die out without our knowing about them, particularly in tropical forest.

Fascinating bedside reading as well as a work of reference, this book will be of interest to all types of reader from children, amateur naturalists, university students to professional bat workers.

R. E. STEBBINGS

The Chemical Capture of Animals, by **A. M. Harthoorn.** Baillière Tindall, £9.50.

Dr Harthoorn's second book on this subject, unlike his first *The Flying Syringe*, is primarily for the technician, and it is as up-to-date as is possible in a review work of this size. Although he refers to published data on the handling of captive animals, the most useful and detailed information is given in the sections on work carried out in East and South Africa by his colleagues and himself. He gives sound advice on fieldcraft in approaching animals, and there is a chapter on basic anatomy and physiology. In addition to comprehensive notes on the dose rates of drugs both in the text and in an appendix, he provides chapters on emergency treatment of the animal where necessary, and of the handler in the event of accidental injection or ingestion of the drug.

The information on syringes and projectiles appears to have been drawn largely from the manufacturers' literature, and it might have been preferable if, with his

wide experience, he had been more critical of the claims made for the equipment. He warns strongly that the capture of animals should only be undertaken by highly trained and experienced personnel, for only in this way can losses be kept down to a generally acceptable level of about one per cent.

A number of references are made to work on birds, together with some discussion on the findings, but there is only bare mention of the work on reptiles and amphibians. For those whose interest is primarily in the management of captive stock, the book leaves a number of gaps, and it is evident that the author has not read some of the more recent work from zoological collections. Some of the practical guidance given for field immobilisation is not wholly applicable to animals in captivity and a section of practical hints specifically for the manager of captive stock would have been a welcome addition, particularly in view of the all-embracing title. Nevertheless, the work is a valuable addition to the published data on wildlife biology.

D. M. JONES

Feather Fashions and Bird Preservation, by **Robin W. Doughty.** California UP, £5.75.

To Save a Bird in Peril, by **David Zimmerman.** Coward, McCann and Geoghan, $9.95.

Two books of great interest: one, the history of the plumage trade and the battle to control it, and the other an account of a modern trend in bird protection, particularly of rare and endangered species, for which David Zimmerman coins the name 'clinical ornithology'. The first is written in a scholarly fashion and the second is racy in style.

Mankind has worn the plumage of birds for a very long time, but what was novel about feather fashions at the beginning of the century was the prolonged and considerable comment on the bird harvest. The abundance of the plumage raised spectres of suffering and extinction, which in turn, excited an interest in birds and a revulsion at the wearing of plumage, and led to the formation of the two largest nature protection organisations in the world – the National Audubon Society of America and the Royal Society for the Protection of Birds. Both fought long and hard against the trade and 'the sacrifice of birds on the altar of vanity'. This historical account of some of the earliest activities to protect birds shows how similar they were to some present struggles. The battle against the plumage trade was repeated in the 1960s against certain agrochemical firms.

There are other parallels between these two books. For instance at the turn of the century it was suggested that when the plumage trade threatened the herons and egrets with extinction the birds should be bred in captivity (which in the past had only been possible with the ostrich). David Zimmerman also sees captive breeding of endangered species as an answer, and describes the many ways in which conservationists, chiefly in America, are using this method. But he fails to distinguish between species that are in peril because they have been unable to adapt to physical changes in the environment and those threatened by man's activities (poisons and other pollutions that could ultimately be controlled), and which, given help, would recover by their own natural resilience.

His accounts of the various programmes are detailed about the methods used, the thinking behind them, and occasionally the disagreements that arise. He believes that no species should be allowed to become extinct, and accepts that man may attempt to change the genetic make-up of the species in order to allow it to adapt to the new environment. But he never questions the philosophy behind all this activity. Should we be tampering with nature to this extent? How much of the conservation resources available are such activities going to use?

PETER CONDER