

background for many fox projects. The eight chapters describe the classification, anatomy and distribution of foxes before going on to aspects of behaviour and ecology, such as diet and hunting behaviour, courtship and parental care, population dynamics, territoriality and dispersion. There are two interesting chapters on the history, theory and practice of man's varied relationships with foxes, which include not only some unusual material but a thoughtful perspective on 'fox problems'. A most notable feature is an excellent bibliography. The black and white photographs are not amongst the most thrilling of fox pictures, but they certainly make some telling points.

Gwyn Lloyd has spent a significant part of his working life studying foxes, and his text, although following a scientifically impersonal style for the most part, does allow his humour and his sensitivity for his subject to shine through. There is one sentence about the fox which, more than any other, I am sure will be quoted until the type is almost rubbed from the page: 'Perhaps it deserves its reputation as a rascal but it does not deserve to die the squalid death that is so often its fate.'

DAVID W. MACDONALD

**Why Big Fierce Animals are Rare**, by Paul Colinvaux. Allen & Unwin, £7.95.

In spite of its title, this book, of North American origin, consists of a series of essays on the working of the natural world generally. Each chapter deals with a separate theme, usually arising from a paradox that is apparent in earlier literature, from Darwin and before, and explaining it in the light of modern knowledge. The title of the book is also that of the third chapter which discusses Elton's Pyramid of Numbers and explains how the rarity of large and fierce animals is understandable through the work of Raymond Lindeman and Evelyn Hutchinson at Yale in regarding food and bodies as calories rather than flesh.

In eighteen thought-provoking chapters most of the problems of modern ecology are discussed: the necessity for a definite niche for every plant and animal; the social life of plants and plant succession; peaceful coexistence in the struggle for existence; territory ('the social imperatives of space'); why there are so many species of organisms; and the fallacy of stability in nature.

A final chapter explores the ecological problems of man – the supreme example of a big, fierce animal that is not rare! A Postlude, an expanded list of further ecological reading and an index complete the book.

There are no illustrations in the text, but a frontispiece and attractive symbolic chapter headings are by Vana Haggerty.

JOHN CLEGG

**Rabies and Wildlife**, a Biologist's Perspective, by D.W. Macdonald. OUP, with Earth Resources Research, £3.95.

There have been a number of publications on rabies in the last few years, but this is undoubtedly the most readable and the best all round account of the subject to date. Most of the earlier publications have dealt more with the medical aspects and the pathology of the disease. This book adequately reviews this subject, but as the title suggests, it looks more widely at the natural history of rabies from a biologist's point of view. Much of the book covers the available knowledge on the red fox, the species which is most likely to be the principal wildlife carrier of the virus should the disease come to Britain again. A comprehensive account of the behavioural ecology of the fox, much of it based on the author's own work, is given and related to the epidemiology of rabies as it would probably occur in Britain. Attention is drawn to the fact that as foxes have adapted extremely well to urban environments, the possibility of transmission of the virus to small domestic animals and then on to man becomes more acute. Methods

of control in the light of current biological knowledge of this species are discussed in some detail. A considerable amount of information is now available on the epidemiology of rabies in Europe, where the red fox is also the principal vector, and this is summarised. At the end consideration is given to the part that other species play in the carriage and transmission of this disease elsewhere in the world.

The study provides an excellent example of an emerging branch of animal science, that of veterinary ecology, where attention to the details of many other aspects of the biology of a particular species can provide a much more meaningful overview of the natural history of a disease process than that provided simply by a laboratory study of the pathological effects of a potentially infectious organism. This excellent little book should be compulsory reading for anybody who might have responsibility for coping with a rabies outbreak in Britain, and for those whose work in other countries may bring them into contact with wildlife vectors of the disease.

D.M. JONES

### **Shillay and the Seals, by Robert Atkinson. Collins Harvill, £6.95.**

This is a highly personal account of one man's journey by boat through the many islands which make up the Outer Hebrides – islands with names that roll off the tongue, such as Berneray, Pabbay, Gasker, Haskeir and Shillay. In it may be found descriptions of all the facets which make up their haunting beauty – scenery, weather which can turn at whim into lashing fury, social history and, above all, wildlife. Here is a paradise for naturalists with 'sweet smelling flowery machair', rocky and remote cliffs and sandy inlets harbouring arctic terns, fulmars, storm and Leach's petrels, and puffins.

However, it was the attraction of grey seals which led the author to spend a solitary autumn on the island of Shillay observing and photographing them as they hauled ashore for the breeding season. He stayed for the complete cycle of courting, mating, birth of and suckling of young, and until the pups moulted and learnt to swim. His account is fascinating, often amusing and above all intimate. The inclement weather during his vigil makes the reader realise what incredibly lonely places these islands can be and the influence it can have on the grey seal population in terms of pup mortality. The text is spiced with historical references to grey seals by such naturalists as Harvie Brown and Fraser Darling, and by ships' captains sent to chart the islands in the last century. Something of the intractable problems facing the remaining inhabitants of some of the islands are also given, resulting in a very readable and evocative book.

SUSAN JOY

### **Half of Paradise, by David Bellamy. Cassell, £7.95.**

This is an account of two Joint Services underwater expeditions to the Chagos Archipelago in 1972 and 1975. Their aim, in addition to training, was to unravel some of the problems of reef formation and growth, and to study the islands' flora and fauna. The first expedition was to the Egmont group; the second to Eagle, Nelson, Four Brothers and Danger.

In an area thought to be poor in reef-forming corals, over 50 genera were found. The most interesting and puzzling discovery was that the most active coral growth is along the most sheltered side of the Great Chagos Bank. The Bank is a giant coral atoll with its extant islands along the north and north-west margins. This growth in sheltered areas is contrary to accepted theory that reef growth is most active on the more exposed, turbulent and well-oxygenated side. Dr Bellamy explains the processes and problems of reef formation very clearly, and his discussions of them are by far the best part of the book.

Faunistically the seabird populations attracted most attention. Six species of tern, three boobies, two shearwaters and two frigates made up the bulk of the populations.