

gascar and other islands have been omitted, except in the small minority of instances where they represent superspecies of which other forms are truly African. In the case of superspecies of wide distribution, inset maps of the world are provided to show the extra-limital representatives. The production of the large volume is excellent.

Nothing of the kind on this scale has been done for birds before. The earlier studies of evolution and speciation, from those of Darwin and Wallace onwards, were made on island populations, for which boundaries were predetermined and tended to remain stable, so that the outcome of segregation was often diagrammatic in its clarity. In a continental area the situation is apt to be much more complicated; and secondary changes in the environment produce secondary effects in the distribution of the avifauna. Keast had lately shown, however, that similar methods of study could be applied to Australian birds; and Mrs Hall herself had done it for the francolins of Africa. Here she has given an exposition on a grand scale, and with most impressive results.

She received much help and advice from the late R. E. Moreau, whose own work had documented the history of climate and vegetation in Africa in their relevance to the avifauna. The contraction and expansion of vegetation zones fracture the originally continuous distribution of avian (and other) species, and the resulting segregations lead to fresh speciation. Later, further changes in the environment bring the isolates into secondary contact, and various patterns emerge. The study of these last offers rich scope for further research, particularly by the field worker. Here is a firm basis for it; and case after case pose an intriguing problem.

A. LANDSBOROUGH THOMSON

ENCOUNTERS WITH SHARKS

The Shark

Splendid Savage of the Sea. By Jacques-Yves Cousteau and Philippe Cousteau. (The Undersea Discoveries of Jacques-Yves Cousteau.) Pp. 277. (124 photographs in colour.) (Cassell: London, October 1970.) 50s.

IN February 1967 the Calypso sailed from Monaco to collect material for a series of television films on the sea. This book is the first of a series of six commissioned by Cassell, each of which will deal with a particular aspect of the work undertaken on this voyage: coral reefs, shipwrecks, whales and archaeology are the subjects of the next four volumes.

Many people who have enjoyed Cousteau's films may want to know more about them. Cousteau's introduction makes the point that the films tell little of the technical and personal problems, difficulties, and triumphs involved: these books are to complete the picture. This book is not a scientific account of sharks and this can never have been the authors' intention: it is not set at a lower level but rather in a different direction. The two Cousteaus—father and son—adopt a narrative style to highlight some of the expedition's encounters with sharks in the Red Sea and Indian Ocean and they do it rather well. I was impressed by a simple account of a submarine dive near Socotra (pp. 181–8); and there can be few readers who will not be astounded by the description and photographs of the whale sharks. Not unexpectedly, much of the book is centred on or returns to the shark as a predator: there is a lot of biting and a lot of blood. Equipment, ship and crew are described and figured. I noted, with envy, that the Calypso carried a first-class cook and a maître d'hôtel!

The text is translated from the French and generally reads well. But here and there dates and places jump. There seems to be a confusing break in continuity on p. 180. The principal part of the text is printed on glazed paper

and the layout is pleasant. But the production standards are not maintained in the last 40 pages which are unglazed and include an adequate index and twenty-two line figures. In the figure section the pages are confusingly see-through and are not numbered. The colour photographs vary in quality and some show a surprising amount of red which may result from using artificial illumination of a spectral composition inappropriate to the depth of water. But as a whole the book is good value for money.

This book, and the others to follow, should interest a wide public and libraries may expect a waiting list for their copy. The biologist will find some interesting observations: attacks on sharks by porpoises; evidence for territoriality in reef sharks; and the presence and behaviour of mice, hawks, and hermit crabs on the island of Derraka. But after reading the book I had the unhappy feeling of having been cheated: so much spectacle, so little measured. For example, the Cousteaus must have hundreds of metres of film on the movements of sharks. But has there been any attempt to relate fish length and swimming speed to tail-beat frequency? What I really want is another sort of book. Calypso sailed from Monaco, a town which I associate, not with the Grand Prix, but with Prince Albert's *Résultats des Campagnes Scientifique accomplies sur son Yacht*. May we yet look forward to a similar series, albeit less munificent, from Cousteau and his Calypso?

F. R. HARDEN JONES

A PARLIAMENT OF OWLS



A white faced scops owl (*Otus leucotis*), one of more than 130 species of owl, some very rare, which are to be found around the world. The natural history of these curious birds of prey is told effectively by John Sparks and Tony Soper in *Owls* (David and Charles: Newton Abbot, October 1970, 50s), a book which should appeal to the naturalist and the general reader alike.