

each species is informative and usually well selected; perhaps the statement that "the frogmouths are related to the nightjars and the swallows" (for swifts) is the only slip of its kind. With commendable honesty the author tells the reader which of his sitters was photographed in other than fully natural conditions.

The author is an ardent conservationist, who, certainly with justice, sees much to condemn in the attitude of the generality of his countrymen towards their wonderful fauna even at the present day. The appearance of a book like this cannot fail to help his cause.

R. E. MOREAU

Four-legged Australians, by Bernhard Grzimek. Collins, 45s.

Dr. Grzimek, the famous Director of the Frankfurt Zoo, recently visited Australia and New Guinea, to see, in their wild state, the fauna of this remote continent, which for tens of thousands of years has been isolated from the rest of the world. This book describes what he saw and learnt, illustrated with magnificent photographs in both colour and black-and-white. In every chapter he sheds light on the purpose of the marvellous works of nature. He writes of the megapodes who build incubators for their eggs, which the male bird tends with great care and skill; the marsupial gliders which are descended from three quite separate families, the marsupial wolf, which, as ORYX readers know, is believed to exist still in Tasmania although it has not been seen by man for a decade; the egg-laying mammals, or monotremes, which are unique to Australia; the marsupials, whose pouches are back to front, a typical example of the miraculous design of nature—in the case of the koala the reason has only recently been discovered; the dingo, one of the earliest settlers from overseas, which can still be seen in considerable numbers in the outback—I have found them in the forests within a few miles of Brisbane. About kangaroos, he notes that the Wild Life Section of CSIRO have only recently discovered that each of the two teats in the females pouch gives a different beverage, one suitable for the youngest member of the family, the other to meet the needs of the joey which is soon to be weaned. In a chapter on "The Birds of Paradise and the Stone Age Men of New Guinea" he paints a vivid picture, on the one hand of some of the most gorgeously feathered and beautiful birds in the world, and on the other of their enemies, the primitive tribes, whose customs are often unbelievably barbarous, but who are being guided, humanely and effectively, towards a civilised way of life.

In a chapter on the rabbit he clearly shows how much extensive research work is required, over many years, before a true picture can be obtained.

The revelations which Dr. Grzimek unfolds throughout this great book fills the mind with wonder; it should be read not only as an account of the Australian fauna, but by everyone who appreciates the marvels of nature.

H. ABEL SMITH

Tropical Fishes of the Great Barrier Reef, by Tom C. Marshall. Angus and Robertson, 75s.

It is two hundred years since Sydney Parkinson, and later Georg Forster, official artists on Cook's first and second voyages, brought home folders of coloured drawings, many of the former's depicting Australian fishes. For more than fifty years these sketches, although never published, were drawn upon by European naturalists for descriptions of new Australian species. By the 1880's, however, several lists, catalogues and descriptive papers on fishes had been published in Australia, and the Australian fish fauna became reasonably well-known. An important contribution was Marshall's *Fishes of the Great Barrier Reef*, published in 1964, of which the present book is a scaled-down version.

Captain Cook had good reason to remember the Great Barrier Reef, as also Captain Bligh. The reef, or more correctly the collection of reefs, outcrops and islands that stretch for 1,200 miles off the coast of Queensland, is no less difficult to navigate nowadays. But here amongst the maze of channels, bays and pools live the coral reef fishes that drew a riot of colour from Parkinson's brush (and perhaps some disbelief in Europe). George Coates, whose 178 colour drawings illustrate the present book, has managed to combine boldness with a certain restraint and delicacy. Together with the 319 half-tone figures (from many sources), the illustrations are quite sufficient for the kind of identification required by the amateur. In this version the author has eliminated keys and sacrificed 488 (out of 566) pages of text, adding one important virtue—a saving of nearly £6 sterling. The same 497 species are listed and are well indexed by scientific and vernacular names, but the species notes are reduced to exactly four telegraphic lines each. The nomenclature is in places outdated and neither authors nor dates are cited. However, this version is essentially an attempt to bring a useful book within the means of the amateur naturalist and fisherman, and in this it succeeds.

P. J. P. WHITEHEAD

British Freshwater Fishes, by **M. E. Varley**. Fishing News, 31s. 6d.
The Trout, by **W. E. Frost** and **M. E. Brown**. New Naturalist monograph. Collins, 25s.

Both these books are important biological contributions to the immense literature on our fishes which, despite descriptive charm, has often lacked a scientific basis. Neither is intended or will do much to teach you how to catch fish (only one of the authors is an angler), yet both are invaluable in instructing the angler *where* he may look for *what* fish and how to manage his water.

The main theme of Dr. Varley's book, a publication of the Buckland Foundation, is the origin and development of the distribution of our freshwater fish. She considers that only the salmonids are truly native to Ireland, but that, apart from a few recent introductions, our English fish, at least in the southern and eastern parts of the country, may be regarded as indigenous.

Introductions of non-native species need caution. We have the best possible sporting fish in the brown trout, supported by the alien rainbow, which flourishes in artificial lakes, and we do not need the American speckled trout *Salvelinus fontinalis* in our rivers, where it has not successfully established itself. Certainly we do not want European predators like the pike-perch and the wels (a catfish), and naturalists should say to fishermen that the balance of our native fish fauna should not be further disturbed. Dr. Varley suggests an exception in tilapia, herbivorous fish which could be grown in heated waters and could not survive in the normal temperatures of our rivers or become competitive with our native species.

As one who has caught and eaten most of our freshwater fish, I agree with Dr. Varley that, apart from perch (excellent) and pike (eatable though to me not "delicious") and, of course, eels, the rest need special treatment to be palatable, and that, even in countries where they are most esteemed, the cyprinids taste of little except the sauce with which they are served. We neglect in our eels and perhaps in our perch a useful supplement to human food.

In *The Trout*, in which Dr. Varley under her maiden name collaborates with Dr. Frost, the complexity of the problems is admirably illustrated by the investigation of the effects of hard and soft waters upon the trout's biology. The chapters on the Physical Environment, Age and Growth and the Biological Environment are of absorbing interest, discussed with great thoroughness and skill of exposition. The chapter on "Trout and Man" should be carefully studied. Trends