

pleasant reverses of the usual trend. 'Conservation works!', says the author; he might have mentioned such bodies as the RSPB which has restored the avocet, black-tailed godwit and osprey, the Nature Conservancy Council and the county conservation trusts, which, by acquiring habitats before it is too late, are making it work.

The book, which is published in association with the World Wildlife Fund, is well illustrated with good monochrome photographs.

JOHN CLEGG

Vanishing Birds—their Natural History and Conservation, by **Tim Halliday**. Sedgwick and Jackson, £7.50.

Evolution inevitably entails the extinction of less well-adapted species, but the rate has increased drastically, with 217 species or local races of birds known to have vanished in the last 400 years. Dr Halliday describes how this happened—and discusses the many other birds at risk—with a wealth of historical detail and biological insight, illustrating many with his own attractive paintings and drawings. He shows how man, increasing in numbers and destructive capacity, has been the main cause of extinctions—through habitat destruction, the introduction of predators on islands, excessive hunting, and pesticides and other pollutants. He examines in detail four classic cases of extinction—the dodo, the solitaire, the great auk and the pink-headed duck, then looks at extinct and endangered birds in North America, New Zealand, Europe and Australia. A special chapter is devoted to birds on islands, the most vulnerable of all, accounting for 200 of the 217 cases of recent extinction. He does not attempt to deal with all extinct or endangered birds, and some examination of such species in Asia, Africa and South America—where the major habitat threat of the present time, the destruction of tropical forests, may lead (and perhaps has already done so) to the loss of species whose habits are largely unknown—would have added to the value of this fascinating survey.

In his final chapter, considering the conservation of endangered birds, he stresses the ecological arguments for conservation, which implies putting the main emphasis on the maintenance of diverse and healthy habitats, so providing for a satisfying variety of all species, as well as endangered ones. He also discusses briefly other modern techniques, from captive breeding to the imaginative transplanting experiments in New Zealand, which may be the last resort in critical cases. The outlook is not entirely bleak, for no bird is known to have become extinct since 1945 (and several thought to have vanished have been found again), while man is slowly learning to control some of his worst excesses. Little will avail, however, if an early halt is not called to the rape of major habitats.

STANLEY CRAMP

A Field Guide to the Reptiles and Amphibians of Britain and Europe, by **E.N. Arnold** and **J.A. Burton**, illustrated by **D.W. Ovenden**. Collins, £4.95.

This long-awaited book, which resembles the US field guides to amphibians and reptiles, very largely replaces Alfred Leutscher's 1962 translation of Walter Hellmich's 1956 work, in its own time useful on a semi-popular level for the keeper of European herpetofauna in vivaria. Written for UK-based field herpetologists, the guide places observations of species into the perspective of the European land mass. For the sake of simplification sub-specific taxonomy is not taken into account, and the authors wisely avoid confusion in a field guide of this scope by keeping firmly to the species level.

The general descriptions and introductory sections are obviously the result of sound academic and practical experience, as well as an enthusiasm for the subject. Neither casual field collection for its own sake nor the keeping of species as pets is encouraged, while observation in the wild and the annotation of records for future reference are. It is a pity that in this otherwise excellent field guide some of the colour plates (first class drawings) have been reduced to about one-third smaller than indicated in the authors' legends. On the other hand, it is very nice to have the range of colour variations for some widely distributed species.

The price is not unreasonable for such an illustrated work, whose usefulness could outspan a decade or more and stimulate work in the habitats of this Linnaeus-obscured group of animals. European field workers should not be without it. One anticipates with interest the possibility of a sequel on the Mediterranean and Near Eastern species to complement the southern and south-eastern European species' ranges that are alluded to in the text.

M.R.K. LAMBERT.

The Sulidae—Gannets and Boobies, by J. Bryan Nelson. Oxford U. P., for the University of Aberdeen, £40.

The aim of this in every sense great book, as set out by the author in an admirably concise introduction to the half-million words of its 1012 pages, is to marshal the results of nearly 20-years-worth of obsession with one of the most fascinating and distinctive of avian families. It was to be done in such a way that details of any particular aspect of the life history of the nine species (Dr. Nelson treats the anciently differentiated trio of gannets, North Atlantic, Cape and Australian, as members of a superspecies, and there are six boobies) can readily be located; that it 'makes sense' of the details; and that it presents them in a style that preserves the seabird atmosphere, thus ensuring that the book is 'browsable' as well as authoritative.

The task, for which the adjective 'mammoth' is almost unavoidable, has been carried out with skill and success. Although four-fifths of the space is devoted to species-by-species accounts (and over a fifth of that to the archetypal bird of the Bass Rock), the frequent comparisons made in the course of discussion are drawn together and analysed in a final 100-page chapter and also reflected in several of the 116 appendices. The latter include contributions by Drs C.J.O. Harrison and W.R.P. Bourne on the fossil record and the impacts of marine pollution respectively. Enormous trouble has been taken to assist both researcher and browser by cross-references, summaries at the end of chapters, and a comprehensive index. Although it is not surprising with such a mass of material that some errors have crept in, they are commendably few.

The main emphasis of the book is on ecology and behaviour, the masterly exposition of which is illustrated by John Busby's beautiful line drawings of behaviour patterns and by a remarkable range of photographs, in which those of breeding sites are of special interest. The two together, with diagrams, total over 400 figures and there are also 32 superb plates, 14 in colour. Altogether a real *magnum opus* at a price not too out of keeping with the pleasure and inexhaustible fountain of data it should provide.

HUGH F.I. ELLIOTT

Ecosystems of the World: Volume 1, Wet Coastal Ecosystems, edited by V.J. Chapman. Elsevier, US\$49.95.

This is the start of an ambitious series of 29 volumes (overall editor, D.W. Goodall) which 'will become a basic work of reference, indispensable for any library serving ecological needs'. Apart from the problem of finding some \$1500 at present prices, this could well be a valid statement. Certainly this first volume is very impressive and beautifully produced.

It deals with salt marshes and mangal (mangrove swamps) down to extreme high water mark; the seaward beds of intertidal vegetation are to be considered in a separate volume. There are general chapters on physiography, soils and animals which set the scene in thorough detail, followed by accounts of the formations as they occur in the different geographical regions, each by an acknowledged expert. Finally there are two chapters on exploitation which are of particular interest to the conservationist, since, after centuries of mild exploitation, destruction has become the order of the day. 'Reclamation' for industrial sites and airports and infilling with city waste are widespread; the Japanese pulpwood hunger is a new danger to mangal; pollution by oil, warm