

editing. As a unique review it should have been published with more consideration for the travails of its Russian author.

CHRISTOPHER J. C. REES

## BIRD LIFE

### Book of British Birds

Pp. 472. (Drive Publications: London. Published for the Reader's Digest Association, Ltd, and the Automobile Association, July 1969.) 75s.

THIS is an excellent work of reference, both for the instruction of the inexpert and as an *aide-mémoire* for the knowledgeable. It is a large book (more than 3 pounds), handsomely produced, and from its narrow oblong shape (as well as its provenance) it seems intended for the glove compartment of a car. It will be useful there for field identification, but much of it deserves more deliberate reading. The text is curiously anonymous; Richard Fitter is named as consulting editor, with several other well known ornithologists as contributors, but no particular items seem to be attributed to them and the whole bears the stamp of skilled professional editing. A long list is appended of published sources that have been drawn on. Raymond Ching Harris painted the striking portraits of 217 British species; most of the numerous other illustrations, in colour or line, are by Robert Gillmor and Hermann Heinzel.

The information provided is partly specific and partly general, the former occupying rather more than half of the book. After a short introduction on the past, present and future of bird life in the British Isles, there are two useful series of keys, with small coloured illustrations, to the identification of species. One series deals with birds at rest, grouped by habitat and colour; the other deals with birds in flight, the grouping in this case being taxonomic.

The largest part of the book gives information about individual species, a page being devoted to each. With a few exceptions, the treatment follows a standard pattern, beginning with a general account of three or four paragraphs and leading on to notes in small type on recognition, nesting and feeding. At the head is the colour portrait of the bird; when there are marked sexual, seasonal or age differences in plumage, more than one bird is commonly, but one regrets not invariably, depicted. In the margin, there is a map showing British distribution, a map showing world distribution, and a line drawing either of the bird in flight or illustrating some characteristic trait; and each of these has an explanatory caption. There is a separate short guide to the rarer birds and to introduced species.

The more general part of the work discusses various aspects of bird life, under such main heads as the conquest of air, land and sea; bird society; birds and man. This is in effect a short review of ornithology and, although the treatment is inevitably rather superficial in places, it is adequate as an introduction to the subject. Skillful use is made of graphic methods of presenting information in an interesting way.

Finally, apart from short sections on numbers and classification, there is a region-by-region guide, with maps and calendars, to the best places and times for bird watching in the British Isles.

LANDSBOROUGH THOMSON

## TOPICAL ECOLOGY

### Molecular Approaches to Ecology

By Marcel Florkin and Ernest Schoffeniels. Pp. x+203. (Academic Press: London and New York, April 1969.) 93s 4d.

ECOLOGY today does not have quite the same image that it had. The study of the relations of animals and plants

to their environment is now taken to include sophisticated laboratory experimentation as well as field observation and collection. Advances in instrumentation, in techniques of biochemical and biophysical analysis which allow the detection and recognition of the chemical constituents and components of cells, have brought about this change. Consequently, the title of the book by Florkin and Schoffeniels is attractive and topical. The prospective buyer, however, is advised to read the introduction, the first chapter entitled "Adaptation and Natural Selection", and the final chapter to find out what the book is about. All are short and informative and indicate the scope of the textual material.

The authors' thesis is that the most constructive approach to the study of adaptation to environment is to begin with consideration of the interaction at the level of the community or of the organism and proceed from this point to the underlying molecular aspects. The authors are fully appreciative of the great contribution to phylogeny which has come from the study of the composition and structure of cellular macromolecules, in particular proteins, but their principal aim is to substantiate the view that adaptation is frequently a polygenic phenomenon, and that several molecular species are involved in the change. Rarely can the adaptation be associated with the properties of a single molecule.

The earlier chapters in the book deal with basic concepts of biochemistry and the evolution and effects of the large array of relatively simple and complex molecules which circulate through the biosphere. Two chapters are devoted to the manner in which chemical properties of organisms are related to the chemical and physical properties of the environment. The remainder of the book accounts for rather more than half the text and consists of two chapters on osmotic regulation in animals and one chapter on cocoon production by the silkworm. These are the areas in which the authors have made a substantial research contribution. They have studied particularly the adaptation of euryhaline invertebrates to media more dilute than seawater. An anisotonic regulation of the body fluids towards the medium and an isosmotic intracellular regulation towards the body fluids are involved. For both processes, the authors find evidence for a number of biochemical adaptations. From their studies of cocoon formation they conclude that this adaptation also has polygenic characteristics.

The authors have assembled and documented abundant information for thought and speculation. As a microbiologist, I am disappointed that little attention is paid to microbial systems. Aspects of the behaviour of halophilic, psychrophilic and thermophilic microorganisms, of the biochemical events in sporulation and slime mould development could all come within the ambit of this title. The authors know what they have in mind by the title, however, and perhaps my plea should be that the title should give a clearer indication of content.

J. W. HOPTON

## TWIN COASTS

### Coasts and Beaches

By J. A. Steers. (Contemporary Science Paperbacks, No. 34.) Pp. vi+136+12 plates. (Oliver and Boyd: Edinburgh, September 1969.) 7s 6d.

### Coasts

By E. C. F. Bird. (An Introduction to Systematic Geomorphology, Vol. 4.) Pp. xv+246+34 plates. (MIT Press: Cambridge, Massachusetts, and London, August 1969.) 70s.

THESE two books are concerned with virtually the same subject and cover the same ground, though they have differing aims. Both books, but particularly Bird's, are much more restricted than their general titles suggest—