**West African Butterflies and Moths**, by **John Boorman**. Longmans, £4.00.

**Butterflies of New Zealand** by **W. B. R. Laidlaw**. Collins, £1.40.

**Butterflies of Trinidad and Tobago**, by **Malcolm Barcant**. Collins, £2.75.

A rather mixed batch, but all quite useful. Boorman's coverage of the West African butterflies and moths in eighty pages is rather a remarkable achievement, due to his careful selection of the 225 species figured: most of those that get into a beginner's net are illustrated, but a few rarities are thrown in to whet the collector's appetite. The colour work is good, if a little dark. The black and white is quite adequate where the insect shown has a definite pattern of markings – solid black is not very helpful – but it is a great pity that there is no means of identifying the truly admirable line drawings of caterpillars and pupae interspersed amongst the photographs.

New Zealand, with only ten endemic butterflies and seven introduced species, is a different proposition; the author's artistic enlarged paintings occupy 16 of the 48 pages. The text is mostly concerned with generalities, including an invitation to relate insect migrations to sunspot cycles, the butterflies being summarily dealt with in the last four-and-a-half pages.

Malcolm Barcant has overcome the difficulty of handling 617 species in a more or less standard Collins Field Guide, by virtually ignoring all but 14 of the 230 species of Hesperiidae known from the islands. Of the others, 336 are illustrated, mostly in colour. The arrangement is peculiar, strongly reflecting the author's far greater interest in butterflies as living creatures than as dead cabinet speciments neatly and systematically arranged. There is no systematic account; the butterflies are dealt with under such headings as those of the garden, of sunshine and flowers, of the shade, drinkers, migrants, highflyers, rarities, etc. Identification rests almost entirely on the figures. There are checklists of scientific and popular names, but no index. A pity the book is so difficult to use for it contains a great deal of interest.

NORMAN RILEY

**The Snakes of Europe**, by **J. W. Steward**. David & Charles, £2.75.

**British Snakes**, by **Leonard G. Appleby**. John Baker, £2.75.

Although a surprising number of books on reptiles have appeared in recent years, the publication of these two, both in 1971, is a noteworthy event for British herpetologists. J. W. Steward provides a most useful survey of his field, the first comprehensive account written for many years. Introductory chapters deal with the evolution and physical organisation of snakes, and with the effects of geology and climate on the distribution of the European forms, and there are interesting discussions, in fairly non-technical language, of methods of killing prey and the role of the various sense organs in such activities as courtship and hunting. The greater part of the book consists of a systematic review of the 33 species and various subspecies, with particulars of distribution, habits and appearance, illustrated by photos and drawings. There is an identification key and a series of diagrams showing head scalation, also a list of common names in the main European languages and a bibliography. This book will be a welcome addition to the libraries of both the specialist and the general naturalist.

L. G. Appleby's account of the British species (grass snake, smooth snake and adder) also contains a general introductory account of

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ophidian natural history. Most of his remarks are well chosen but there are a few statements which might be disputed. It is questionable, for instance, whether the eyesight of most snakes is very poor, in the sense of their visual apparatus being inefficient, although it is probably true, as he says, that snakes react much more readily to the sight of moving objects than immobile ones. His book is valuable for its detailed firsthand observations, illustrated by excellent photos, with good accounts of feeding, courtship and sloughing, and of defensive behaviour. Some adder-bite case-histories, including a personal experience, are described. The author incised his wound with a razor blade and one would like more emphasis on the possible dangers of this very controversial first-aid measure.

Both authors draw attention to the decline in many snake populations, largely as the result of habitat destruction. By stimulating human interest in, and perhaps sympathy for snakes, these two books should help to promote the conservation of these fascinating though traditionally unpopular creatures.

A. d'A. BELLAIRS

**Ecological Isolation in Birds, by David Lack.** Blackwell, £4.25.

This is a valuable contribution to scientific thought by a recognised authority. It is also of practical significance for us in that effective conservation measures must be based on sound ecological information. Its examples are taken from birds, on which most of the relevant research has been done; but, as the author ends his text by saying, 'ecological isolation is not just a problem for the ornithological specialist, but occupies a central position with respect to principles of animal evolution and ecology'.

The particular theme is stated in the opening sentences: 'Two species of animals can coexist in the same area only if they differ in ecology. Such ecological isolation, brought about through competitive exclusion, is of basic importance in the origin of new species, adaptive radiation, species diversity and the composition of faunas'. This principle of competitive exclusion, as it has come to be called, was mentioned by various authors long before its importance was widely recognised. It became firmly established, for birds, after Lack's work on Darwin's finches, published in 1944. Here he elaborates the whole case with a wealth of supporting evidence, some of the detail being conveniently summarised in appendices. He is chiefly concerned with competition between congeneric species, but a wider aspect is discussed in the final chapter.

The main facts are drawn from Europe, North America, Africa, Asia, archipelagos and remote islands. They relate to all the bird groups for which adequate data exist, so that the dangers of selection are avoided. Tits figure prominently, while nuthatches and white-eyes are both given whole chapters. Among others receiving close attention are birds of prey, brood parasites, and many tropical groups; nor are seabirds neglected. Of special relevance here is a chapter on the coexistence of European finch species in a man-modified environment. Of much interest are the European trans-Saharan migrant passerines, which are shown to be subject to quite different isolating factors in winter quarters from those operating in the breeding season; some of the facts come from the work, in part not yet published, of the late Reginald Moreau.

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