

same 48 colour plates, but more compact versions of such topics as Classification, Status, Life History, Adult Structure, Variation, and Conservation and Collecting.

The main text is arranged in the form of concise information tables into which the author has skillfully embodied a wealth of information. Species are listed in alphabetical order of common names, and then receive individual mention under: family and scientific name; racial name; named aberrations; variation, calendar; food plants; instars and distribution. 'Aberrations' is full of surprises; for example, the chalkhill blue has 446, the meadow brown 93; even the large white has 34. We particularly liked the calendar where, at a glance, one can determine the stage at which a given species passes any one of our twelve months. There is an identification key and a classified list.

By comparison with its big brother, the price of this volume is moderate, and very good value.

BRIAN BAKER

**A Natural Ecology**, by Michael Graham. Manchester University Press, £1.80 paperback; £4.80 hard covers.

**Nature in the Round: a Guide to Environmental Science**, edited by Nigel Calder. Weidenfeld and Nicolson, £3.25.

With the mass of scientific theory increasing at its present rate, it is becoming increasingly difficult for one man to write a book that is both authoritative and sufficiently wide-ranging to be of more than specialist interest. There is always, however, room for a book such as this by Michael Graham. In no sense can it be considered a comprehensive ecology text; indeed the author never intended it as such. It grew out of a course of lectures he gave at Salford University some years after his retirement as the Director of Fisheries Research at Lowestoft, and he draws heavily on his experience there. In retirement at Rivington in Lancashire he started a successful community reclamation scheme for derelict coal-tips, and this too comes under discussion, as does his life-long interest in farming. Indeed it is on these three areas of practical ecology that this marvellously rewarding and readable book is based, and its strength lies, not in providing an up-to-date review of ecology, but in giving a coherent framework, based on a mass of practical experience. Thus his discussion of populations and numbers may not take some of the more modern mathematical concepts into account, but it displays a refreshing closeness to the subject. *A Natural Ecology* will not replace existing books, but surely no practising ecologist can afford not to read it.

If Michael Graham's book represents one solution to the problem of tackling the breadth of modern science, *Nature in the Round* adopts the other successful approach—that of collecting the work of experts in the various fields into a single volume. Nigel Calder, as Editor, states his aim as 'a step towards the invention of environmental science'. To this end he has gathered contributions from eminent ecologists, anthropologists, economists, geographers, planners, and, in short, representatives of all possible involved disciplines. But though such a compilation gives authoritative coverage of a broad field, in a way that no individual could attempt, there is a need for a strong unifying editorial line. Many of the individual chapters are excellent, but they often appear to be aimed at different audiences. From the work of 26 authors it would be invidious to select particular essays for comment, but many biologically minded environmentalists will find the more sociological contributions particularly valuable, whilst the more ecological parts are in all cases informative and important.

*Nature in the Round* is indubitably valuable as a source book on a multitude of environmental topics, but to achieve the 'step towards the invention of environmental science' that is its aim would need a more conspicuous editorial presence. Judging from what is offered here, the foundation stones of this new science seem firm enough, but we still await the concrete to bind them together.

ALASTAIR FITTER

**Cranes of the World**, by Lawrence Walkinshaw. Winchester Press, New York, \$25.00.

'Monumental' is the apt adjective for this book—a monument to the fifteen surviving species of a family of birds which has decorated the earth for millions of years but whose existence is increasingly menaced by man; and equally a monument to the dedication and achievement of an amateur ornithologist in the truest sense of the term. Retiring from a dental practice only five years ago, he has amassed, in 370 pages, the results of over forty years' observations of wild and captive cranes, supported by intensive research in libraries and museums. This comprehensive array of information is enlivened by some fine descriptive writing, generous quotation, and 138 well-chosen photographs, ten of them in colour, and for the most part taken by the author himself on his extensive travels.

The plan of the book is simple: preface; introduction (summarising the characteristics of the family, and the classification of living and fossil species); the fifteen biographies set out under roughly comparable headings; 23 tables of miscellaneous data; an appendix listing the majority of plants and animals incidentally mentioned in the text (but unfortunately without page references); and a species by species bibliography. In general, there is something of interest for everyone and a conservation-minded reader will especially enjoy the story of the whooping crane and the piecing together of all that is known of the mysterious black-necked crane.

Perhaps inevitably, in a book of such ambitious scope, there are several defects in the organisation and appraisal of material, and rather too many misprints and minor errors. One must also deplore the haphazard and unnecessary use of alternative English names, which besides being confusing leads to some absurdities like 'dark-crowned' and 'gray-crowned' crane (for which reason the names 'dark crowned crane' and 'gray crowned crane' are surely best avoided!). But despite these blemishes, this is a book to which every gruiophile will undoubtedly turn for information and enjoyment for years to come.

HUGH F. I. ELLIOTT

**New Zealand Insects and their Story**, by Richard Sharell. Collins, £5.50.

As its title suggests, this is a popular account of entomology as illustrated by the New Zealand insect fauna. The first chapter describes, in words and pictures, the life history of the praying mantis. Thereafter the book follows an orthodox pattern with chapters on butterflies and moths, beetles and bugs, and other groups of insects. The style is enthusiastic without being too gushing, and, although much of the descriptive material will be of interest primarily to those living in New Zealand, most entomologists and naturalists should find the book enjoyable and informative. A chapter on the origin and evolution of insects does not differentiate sufficiently between modern groups of animals and the ancestral ones from which they are probably descended, but it is a readable and lively account of the subject. One of the most enjoyable chapters is the biographical sketch of the pioneer New Zealand entomologist G. V. Hudson. The much slighter account of Fabre which accompanies it is not relevant to the book's theme.