

Advances in Ecological Research 5, edited by **J.B. Cragg**. Academic Press, 80s.

All the papers in the volume are of interest to conservation biologists, but that by Dr. R. Daubenmire on "The Ecology of Fires in Grasslands" is the most directly relevant, showing that the effects of fire are by no means always detrimental, in fact many habitats and species depend upon it. In some areas burning increases humus, in others it reduces it; he shows how unwise it is to generalise about this complex subject.

There is no common theme to the papers in this volume but all are stimulating reviews of different aspects of ecology. In "Towards Understanding Ecosystems", Dr. D.M. Gates demonstrates the value of working mathematical models based on physical and biological principles. From an exact appraisal of the factors affecting energy exchange between a single leaf and its environment he proceeds logically and lucidly to means of studying complex matters such as plant competition and succession on a quantitative basis. Dr. Gates believes that one day ecology will be the most challenging of all theoretical disciplines.

The amphibia in Australia are represented only by the frogs and toads. The group is of special interest because several species have become well adapted to life in arid regions; speed in rehydration after drought is shown to be particularly important. In "Ecology, Systematics and Evolution of Australian Frogs", Dr. A.R. Main provides an excellent synthesis. Special attention is given to the fauna of Western Australia with much new information.

Very few thorough long-term studies have ever been made on any ecosystem; that by Professor O.W. Richards, Dr. N. Waloff and Dr. J.P. Dempster and their students at the Imperial College Field Station at Silwood Park is a well-known exception. The study has continued for over twelve years and many aspects of it have been recorded in the literature. In her review "Studies on the Insect Fauna of Scotch Broom" which contains information from unpublished theses, Dr. Waloff provides a much needed synthesis which will be of great value to all interested in prey/predator, host/parasite and competitive relationships.

N.W. MOORE

Field Natural History: A Guide to Ecology, by **Alfred Leutscher**. Bell, £3.

The author of this book, in his daily work as senior lecturer in charge of educational services at the British Museum (Natural History), and in his many outside activities, is continuously in contact with school children and their teachers. His book is obviously the result of many years of experience in putting over to them the kind of information that he now shares with a wider audience in a very clear and straightforward way. Far more is included than the title of the book might imply. Part 1 'The Organism and its Environment' is, in fact, a generous introduction to both geology and biology, with sections on evolution theory, Mendelism, animal camouflage and warning coloration, parasitism and classification. Part 2 'Major Habitats in Britain' is a useful summary of the main characteristics of woodlands, chalklands, heath and moorland, the sea coast, mountains, freshwater habitats, waste ground, hedgerows, roadsides and fields and man-made habitats. Part 3 'Field Work' sets out 19 projects for practical work based on studies which the author has made in his beloved Epping Forest. There is an epilogue on conservation, 23 valuable appen-