

The last chapter, "Recovery and Therapy", by van Bekkum, seems quite outstanding. Not only is it aptly critical and fully informed, but also the author has been able to digest his material and present it in a gracious literary form, and much wisdom withal: a model of science writing. O. A. TROWELL.

Scot Head Island

Edited by Prof. J. A. Steers. Revised edition. Pp. xi+269+29 plates. (Cambridge: W. Heffer and Sons, Ltd., 1960.) 50s. net.

SCOLT Head Island is a strip of marshland, shingle ridges and dunes approximately four miles long, lying off the north Norfolk coast between Burnham, Overy Staithe and Brancaster. Of the seventy-odd statutory Nature reserves which now exist throughout Great Britain, it can justly hold pride of place as one of the most intensively studied by botanists, zoologists and physiographers. The present volume provides ample testimony to the work of a great number of individuals during the past thirty-five years or so. As is to be expected, the physiography and evolution of the Island receive extensive treatment, evidence being provided of the structure of the various marshes, their rates of accretion and the influence of extraneous forces on them. The Island is evidently in a state of dynamic equilibrium, the beaches and dunes being built up at one time and eroded at another. Such circumstances demand constant adjustment and great adaptability by plant and animal colonists, and so provide wonderful opportunities for the ecologist. That these opportunities have been fully realized is evident from the accounts of pollen analysis in the peat and the detailed studies of flowering plant and bryophyte ecology. Of the animals, birds are treated in some detail with particular reference to terns, wildfowl and waders. There is a useful section on marine invertebrates and an interesting account of terrestrial molluscs in relation to the fluctuating variety of habitats that the Island has to offer. The insects of the Island appear to have been studied less than the other groups already mentioned, and the account of their ecology is rather fragmentary. Clearly, there are opportunities here for the investigation of micro-evolutionary changes for which they might provide admirable material.

The reappearance of this splendid symposium in revised and expanded form will be welcomed by anyone with a love of ecology and natural history. It provides an example of the ecological survey at its very best. W. H. DOWDESWELL

Schizophyzeen

Von Prof. Dr. Lothar Geitler. 2. umbearbeitete Auflage. (Handbuch der Pflanzenanatomie, Band VI, Teil 1. Zweite, völlig neubearbeitete Auflage herausgegeben von Prof. Dr. W. Zimmerman und Prof. Dr. P. Ozenda.) Pp. vii+131. (Berlin-Nikolassee: Gebrüder Borntraeger, 1960.) 57.50 D.M.

IT would be a mistake to assume that this volume, as might be suggested by the title of the series, deals only with the gross structure of the Schizophyceae—or, as they are better known in Great Britain, the Cyanophyta, Myxophyceae or blue-green algae. The author has interpreted anatomy in a broad sense, and almost every page has reference to other features of wider interest.

The morphological range in the group is adequately summarized, but in addition there is a particularly good account of modern work on the structure of the protoplast, a subject of considerable importance on account of the low level of cellular organization as revealed by the absence of differentiation into nucleus and cytoplasm. That botanical enigma, the heterocyst, also receives adequate treatment, but it would seem that there is still no satisfactory explanation as to the function, if any, of this peculiar type of cell.

The text is illustrated by many fine figures, while the printing and binding are all that could be wished for.

The Birds of the British Isles

By Dr. David Armitage Bannerman. Illustrated by George E. Lodge. Vol. 9: Scolopacidae (Part). Pp. xii+398+26 plates. (Edinburgh and London: Oliver and Boyd, Ltd., 1961.) 63s. net.

THIS ninth volume (with three still to come) is devoted entirely to the Scolopacidae and does not, indeed, completely cover that large family. Here we have the curlews, godwits, and an array of sandpipers; the phalaropes, separated by some authorities, are also included. So many of these species are not natives of the British Isles that Dr. Bannerman has had to be even more assiduous than usual in gathering extraneous material for full accounts of their life-histories. In doing this he has drawn on a wide knowledge of the literature and information supplied by correspondents, while other authors have contributed certain sections by invitation. In this way the birds are followed on one hand to breeding grounds in the high Arctic or in North America or Asia, and on the other to winter quarters by tropical coasts, rivers and lakes—a valuable compendium of evidence. Some of these 'waders' (or 'shore-birds' as the Americans have it) were among the best subjects of the late George Lodge's artistry. LANDSBOROUGH THOMSON

The Monarch Butterfly

By Dr. F. A. Urquhart. Pp. xxiv+361+12 plates. (Toronto: University of Toronto Press; London: Oxford University Press, 1960.) 52s. net.

IN a well-printed and well-produced book of 350 pages and twelve coloured plates, Dr. F. A. Urquhart, of the Royal Ontario Museum, has produced a very full account of the monarch butterfly, *Danaus plexippus* Linn., particularly from the point of view of its life-cycle, its habits—including its remarkable annual migrations—and its relation to other species in a 'mimicry' complex. The first part of the book, 96 pages, is a general survey: the second gives in more detail the investigations carried out by Urquhart and his collaborators in the field during many years.

Nearly all the book is of interest to the field naturalist, but its most outstanding contribution is undoubtedly the results of the author's work on marking of the butterflies on their autumn and spring migrations, and recoveries at great distances. It has been generally accepted for many years that the monarch in North America must migrate over long distances to the south in the autumn and back to the north in the spring, but absolute proof was lacking.