Book Reviews

Recording the Changing Biota

The Changing Flora and Fauna of Britain. Proceedings of a symposium, Leicester, England, Apr. 1973. D. L. HAWKSWORTH, Ed. Published for the Systematics Association by Academic Press, New York, 1974. xiv, 462 pp., illus. $23.75. Systematics Association Special Volume No. 6.

This book is the report of a symposium held last year to consider the changes in the British flora and fauna since systematic records began. The plan is taxonomic, and each author attempts to present the facts and discuss the causes; there are chapters on the bryophytes, freshwater algae, vascular plants, mammals, terrestrial mollusks, spiders, and so on, 21 in all. The emphasis is on the more organized records of the last few decades, but most authors have interesting accounts that span the modern scientific period from about 1800, and a few draw on historical sources. The aim was to provide a foundation for continuing and more adequate observation of the changing biota.

It is surprising, perhaps, in such a densely populated and industrialized country, how few species have become extinct. The mammals have lost only four indigenous species, beaver, bear, wild boar, and wolf, out of a total of 46, since Roman times. But Britain is very complex physiographically, with local enclaves that provide for refuge against changes of many kinds. There are even substantial areas, notably in the Scottish Highlands, where the impact of man is even yet not acute. (How much longer this situation can be maintained, under pressure of offshore oil drilling, new towns, and ever increasing tourism is another matter.) For the fishes, however, the advent of canals, reservoirs, land drainage, direct management and introductions, toxic wastes, eutrophication, and temperature changes have grossly altered the original pattern, and the author sums up, "The freshwater fish fauna of the British Isles can be seen to be essentially what man has made of it." In the Lepidoptera the changes induced by man are less pervasive, and unrelated changes can also be perceived. Some 16 species of butterflies and the larger moths (out of about 800) have become extinct since 1850, the majority probably because of the completion of the drainage of the fens for agriculture. But the work of observers throughout the country makes it possible also to record that 25 others have become established in Britain in the same period. Eight of these now have extended ranges, 12 are static, and 5 others persisted for from 7 to 37 years and then died out. Most species settled in the years 1921–1960, a period of climatic amelioration in which other, already resident species increased their range.

This volume, along with other recent publications, stands as a tribute to the work of the Nature Conservancy, the Biological Records Centre at Monk's Wood, and British naturalists generally. The situation in Britain is especially favorable for the detailed probing of the continuing and complex encounter between other organisms and man. The encounter is one between organisms whose capacity for change is limited to the genetic mode and an organism whose specific ecological impact can change also by cultural development, repeatedly, radically, and at an ever increasing tempo. The work is obviously of the greatest importance, but also of the greatest intricacy and unique in kind. The book under review assembles some of the foundations for this necessary study.

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A Famous Quarrel

The Fossil Feud. Between E. D. Cope and O. C. Marsh. ELIZABETH NOBLE SHOR. Exposition, Hicksville, N.Y., 1974. xii, 340 pp. + plates. $12.50. An Exposition-University Book.

The most famous scientific quarrel of the Victorian era is the long and bitter Cope-Marsh feud. The antagonists were the vertebrate paleontologists Edward D. Cope of the University of Pennsylvania and O. C. Marsh of Yale University. In this account of the quarrel Shor has concentrated on the journalistic explosion of January 1890 which was initiated by Cope in the New York *Herald.*

The book is divided into three parts. The first part includes very good accounts of Cope, Marsh, and the background and development of their antagonism. With carefully chosen words Shor has captured the essences of the warm but impetuous Cope and the glacial and unloved Marsh.

Cope's charges against Marsh were written by William H. Ballou, a self-promoting free-lance writer and very amateur mycologist of no particular ethical standards. Shor obviously enjoyed tracking down the various claims Ballou made for himself, including those listed in the 1938 edition of *Who's Who in America.* She makes a clear case that Ballou was a fraud and four-flusher who hung around the fringes of science and journalism. In other words, Ballou was the sort of man with whom Cope would never have associated had he not been blinded by his anger and indignation at Marsh.

The major portion of the book is a verbatim presentation of almost the entire series of columns by Ballou that were printed in the *Herald* between 12 and 26 January. To me, a vertebrate paleontologist and a devotee of the history of science, it is all interesting and pertinent. In the charges, denials, and countercharges and in the quotations from participants and bystanders in science there is a wealth of information. But I think the book would have been improved if this part had been cut in half. I would not relish the task of selecting which items to omit, but I am sure that from a judiciously selected 50 percent the reader could get a sense of the nature and intensity of the feud and just as good an understanding of the personalities of the participants.

The last part of the book is a useful section consisting of short sketches of 98 men who played a role in or were touched by the feud. Here, too, the author has used well her gift for capturing in a few sentences a man and his work.

We are indebted to the author for sharing with us two quotations from letters of the late Alfred S. Romer, with whom she corresponded while preparing this book. One tells of the negative impression that Ballou, then in his 60's, made upon young Romer when he was a graduate student at Columbia University and the American Museum of Natural History. Romer also wrote that