

Book Reviews

Conodont Paleoecology

Edited by C. R. Barnes

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During the past decade the Pander Society, an informal association of paleontologists interested in conodonts, has held a series of symposia devoted to these enigmatic microfossils. Proceedings of symposia dealing with taxonomy, biostratigraphy, and paleozoology of conodonts have been published. The present volume, on conodont paleoecology, resulted from a symposium held at the University of Waterloo, in 1975, in conjunction with the annual meetings of the GAC and GSA (North-central Section).

Nineteen papers and an editorial preface are contained within the book, presenting a wealth of the most recent information and ideas on the life habits and ecological distribution of conodonts. Except for the first two contributions, a general review of the title subject by M. Lindstrom and a provocative article by L. E. Fahraeus relating conodont distribution and plate tectonics, the papers are arranged in a chronological order ranging from S. M. Bergstrom and J. B. Carnes' careful examination of Middle Ordovician Appalachian faunas to H. Kozur's discussion of Triassic Eurasian conodont paleoecology. The papers are mostly brief and easy to read although, in some cases, attainment of

brevity has produced unwarranted complexity. For example, text-figures in the paper by B. D. E. Chatterton are overendowed with data and are difficult to appreciate, while R. L. Austin's paper on Dinantian (Carboniferous) conodonts reads disjointedly, perhaps as a result of reduction from a large original manuscript.

A disappointment to the nonspecialist in conodonts may be the lack of illustrations of the microfossils. Even line drawings are absent and one of the only two plates is poor. Generally, however, this book is a fine production and rare typographical errors detract only slightly from the high overall quality.

A most interesting aspect of the book is the variety of angles from which the problem of deciphering conodont paleoecology has been approached. Methods range from the detailed evaluation of Silurian sedimentological criteria and conodont occurrences by J. Lefevre *et al.*, to the speculative paleozoological models of L. Jeppsson, to the mathematical analysis of Permian conodont distributions by L. C. Babcock. The well known distribution of associated macrofossil communities was used by R. J. Aldridge to interpret the environmental preferences of British Silurian conodonts. The standard approach that emerges from this collection of papers involves examination of conodont distribution through a stratigraphic interval whose sedimentology is well known and whose age limits are well defined. Papers by P. H. von Bitter on Carboniferous conodonts of Nova Scotia and D. L. Clark and S. V. Rosser on Triassic conodonts of Utah and Nevada exemplify this type of basic research.

Five papers concerned with Devonian faunas in Europe and North America provide conflicting ideas on the manner of segregation of conodont

communities. These basic differences of opinion show that ecological studies of conodonts are at a very preliminary stage. Indeed, this entire book is really only a beginning – a signpost indicating some of the directions for future conodont research.

The book does not produce any general consensus on the ecology of conodonts; the argument over depth stratification versus lateral segregation of conodont faunas continues to rage. The difficulty of interpreting the life habits of a fossil of unknown zoological affinities remains a problem. Nevertheless, students and senior researchers grappling with paleoecological uncertainties should benefit by this assembly of case histories, centered about a particular fossil group, but illustrating the various methods that can be employed in study of any fossil group.

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