

## Reviews

### HISTORY OF THE ANTARCTIC FLORA AND FAUNA

ORIGINS AND EVOLUTION OF THE ANTARCTIC BIOTA. Crame, J. A. (editor). 1989. London, The Geological Society (Geological Society Special Publication No. 47). 322 p, illustrated, hard cover. ISBN 0-903317-44-3. £58.00

This volume is a record of the papers presented at an international discussion meeting on the 'Origins and evolution of the Antarctic biota', at The Geological Society, London, on 24 and 25 May 1988. The attendance of more than 100 earth and biological scientists representing 15 countries clearly demonstrated growing interest in the subject matter. The introductory summary by the editor is particularly useful to the specialist in enabling him to select which papers to read in depth. Indirectly, it also reveals how many gaps there are in the content of the book, as is frequently the case with symposium volumes. Over the past 25 years, knowledge of both the marine and terrestrial palaeontology of Antarctica has increased tremendously and, in combination with various reconstructions of Gondwana, it has been possible to make many more plausible interpretations of the known facts than previously.

Several of the papers are straight reviews of the present state of knowledge, eg the evolution of the Antarctic fish fauna, whereas others are far more fundamental and attack the real problems of the influence on diversification of past landmass distributions and suitable corridors for both floral and faunal interchange between high and low southern latitudes. Some authors have reached a similar conclusion that many of the plant and animal groups seem to have originated in high southern latitudes and then radiated outwards. Of course, the southern margins of Antarctica and Gondwana appear to have been important dispersal routes. Palaeoclimatological implications are that over very long periods of time the equable climates 'contributed to the proliferation of life'.

The paper by Clarke and Crame on 'The origin of the Southern Ocean marine fauna' is quite outstanding in bringing together palaeontological and modern-day biological thinking: 'Overall the fauna clearly has had a long evolutionary history and thus has no single origin. In a sense, it has always been there'. This is not a book for the faint-hearted; the extensive use of highly scientific jargon is often sufficient to defeat even the most experienced scientist. Nevertheless, it is well produced and liberally illustrated with clear line drawings and quite exceptionally good half-tones. (Raymond J. Adie, 8 Manors Way, Cambridge CB1 4SL)

### SHIPPING IN THE CANADIAN NORTH

THE CHALLENGE OF ARCTIC SHIPPING: SCIENCE, ENVIRONMENTAL ASSESSMENT AND HUMAN VALUES. VanderZwaag, D.L. and Lamson, C. (editors). 1990. Montreal and Kingston, McGill and Queen's University Press. 282 p, illustrated, hard cover. ISBN 0-7735-0700-0. £33.20.

This book, as is not immediately obvious from the title, is concerned almost exclusively with Canada, and not at all with the Eurasian north, where most Arctic shipping takes place. Nor is the technical side of Arctic shipping discussed. But there is nevertheless plenty to say about the Canadian scene, and our two editors have assembled a team of eleven specialists to try to explain the complexities of the present situation, which does indeed require informed explanation.

Commercial navigation in Canadian Arctic waters does not have a very long history, and now that technology is rapidly expanding the possibilities, Canada is very properly seeking guidelines and solutions. There has already been a bewildering proliferation of administrative requirements, with associated acronyms, for projects involving Arctic shipping. The proposal to ship out natural gas from the remote north coast of Melville Island, known as the Arctic Pilot Project (APP), was subject to an extraordinary number of investigations between 1977 and 1983. The effort to find the right way to avoid possible environmental damage ended, that time, in the collapse of the scheme.

There are, of course, pros and cons to all these ideas, and they are properly mirrored in this book. Thus the report of the Lancaster Sound Study, a detailed examination thought necessary before any development decisions were taken, is called 'the excellent final report' by one contributor, and 'a series of platitudes and extremely conservative general options' by another. As a final contribution, the senior editor pulls some of the threads together and puts the whole set of complex issues in a wider framework. (Terence Armstrong, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

### ANTARCTICA: AN INDIAN VIEW

DAWNING OF ANTARCTICA: A GEOPOLITICAL ANALYSIS. Chaturvedi, Sanjay. 1990. New Delhi, Segment Books. 300 p, maps, hard cover. ISBN 81-85330-06-9.

Though a further addition to the extensive literature on Antarctica, this book is the first of its kind by an Indian author. It gives both a fair background to readers who are new to the area, and at times a distinctive Indian viewpoint.