
BOOK REVIEWS

Journal of Palynology, (Dr Thanikaimoni Memorial Volume), 1987-1988, Vols. 23-24, (ed.) S. Chandra, (Published by Today and Tomorrow's Printers and Publishers, 24 B/5, Deshbandhu Gupta Road, New Delhi 110 005, pp. 254, Price: US \$ 70/.

The book includes 23 articles originally published in the *Journal of Palynology*, 23-24, 1987-1988 on aspects of palynology like evolution morphology, reproductive biology, aerobiology and ecology, and palaeopalynology. It begins with an introductory preface, a foreword and a tribute which pay moving encomiums to the qualities of head and heart possessed by Dr Thanikaimoni, whose promising career was abruptly cut short by the tragic hijacking of a Pan-Am plane on 8 September 1986 at the Karachi airport. A list of the publications of Dr. Thanikaimoni follows the preface.

The editor mentions that all the contributions are articles invited from eminent palynologists all over the world. As can be expected, an assembly of such articles will naturally vary greatly in their extent and contents, e.g., one of them lacks even an abstract but the whole of it could perhaps be regarded as an abstract.

The first scientific article by Nair on "Morphological evolution of pollen and spores" includes axiomatic pronouncements like their being trimorphic and although he refers to the evolution of "Sporae dispersae of Archegoniatae" he traces "spore-like bodies" to the Swaziland Group of Precambrian. Later he switches over to the "Triphyletic theory" of angiosperms. This article also presents a contrast with others in containing a much larger number of printing errors.

Articles which present views and observations of general interest include "Pollen evolution in seed plants—a cladistic perspective" by Doyle, "Substructure within the endexine" by Rowley, "Variations of apertures in pontoperculum" by van Campo, "Fossil pollen ultrastructure by transmission imaging in a TSEM" by Skvarla *et al* and "*Ctenolophon* and *Sclerosperma* palaeogeography and Senonian Indian plate positions" by S. Srivastava. One article on "Pollen embryogenesis" by P. S. Srivastava and Johri also includes material of wider interest although it merely reviews the work of other experts

on haploid embryo culture. Nevertheless, the title of the article is such that it could and should have accommodated the work of Nemeč, de Mol, Stow, Naithani, and Geitler on pollen embryo sacs and added an original idea by suggesting that these early works had actually forestalled the possibility of the successful culture of pollen grains into embryos parthenogenetically or after fertilization since such pollen embryo sacs had even been shown to attract pollen tubes.

The articles on aerobiology and ecology mainly include fresh observations on areas already covered by the same or other workers except for a paper on palynodebris. It is, however, strange that none of the authors mentions *Phyta Monograph* No. 2 on Aeropalynology of Allahabad by Nautiyal and Midha or a paper on palynodebris by Pant, Nautiyal and Midha.

Notwithstanding its minor shortcomings the wide coverage of the book and its dedication to the memory of G. Thanikaimoni should ensure its usefulness and acquisition by a wide section of palynologists and taxonomists.

D. D. PANT

Department of Botany,
University of Allahabad,
Allahabad 227 002.

Animal Energetics, (eds) T. J. Pandian and F. John Vernberg, 1987, (Published by Academic Press, INC Harcourt Brace Jovanovich, Publishers, New York, USA), In two volumes, Price: Not known.

Bioenergetics is the study of energy transformation in living systems. While a good number of books have appeared on the bioenergetics of warm-blooded vertebrates (birds and mammals), the information in various invertebrates as well as in cold-blooded vertebrates has been scattered in various papers published in a number of journals. Taking cognisance of the importance of animal energetics, the authors have prepared a treatise in this field. Nearly 25 authors have contributed

articles in the two volumes who are experts in their own fields, of particular group of animals. Altogether there are 19 chapters, ten in the first volume and nine in the second volume; out of these, fifteen chapters exclusively deal with the energetics of invertebrates. Under each chapter recent information on the feeding habits, absorption and egestion, respiratory metabolism, excretion, production, somating growth, reproductive output and population energy budgets have been described. Each chapter ends with an extensive bibliography pertaining to the bio-energetics of the particular class of animals. The two-volume treatise focusses primarily on the integrated picture of the energy transformation process, at the organismic level in certain chapters. Population energetics and suborganismic level are also fully discussed.

The study of bioenergetics has implications for

both basic science and applied fields (such as aquaculture). In developing countries where under-nutrition and mal-nutrition are chronic problems, a pressing demand for low cost protein-rich food has clearly shown the need for the rapid establishment of aquaculture. The two volumes on animal energetics will be useful not only for aquaculturists but also to biologists, physiologists and ecologists, since under each chapter the authors have mentioned the gaps in our existing knowledge and suggested new topics for investigation in the invertebrates and cold-blooded vertebrates.

R. NAGABHUSHANAM

Department of Zoology,
Marathwada University,
Aurangabad 431 004.

ANNOUNCEMENT

OBITUARY

We deeply regret to announce the death of Prof. S. Bhagavantam, a scientist of international repute, on 6 February 1989. A brilliant physicist, Dr Bhagavantam was a student of Prof. C. V. Raman and won many distinctions and scientific honours for his country. He was Professor and Head of the Department of Physics and also The Principal of the University Colleges of Andhra University, Vice-Chancellor of the Osmania University, the first

scientific liaison officer of independent India in UK, Director of the Indian Institute of Science, Bangalore, and Scientific Adviser to the Minister of Defence. He was President of Current Science Association from 1970 to 1976. A dedicated scientist, a fine teacher and an able administrator, he, by his example and many-sided activities, has left a profound impression on the academic and scientific life of the country.
