



## BOOK REVIEW

**APPLIED GEOLOGICAL MICROPALAEONTOLOGY**  
by P.K.Kathal, Scientific Publishers, Jodhpur (India), 228 pp.,  
Price: not mentioned.

The branch of micropalaeontology has emerged as an important tool in answering several unresolved problems in the geological history and widely utilised in exploration of minerals, specifically fossil fuels. Dr. P.K.Kathal who is an experienced researcher in the field of micropalaeontology and teaching since 1982, has authored the book.

The book has been divided into seven chapters. The first two chapters deal with introduction about microfossils and the second one with the techniques used in studying the microfossils. Chapters 3 to 7 deal with the microfossil groups, (Foraminifera, Diatoms, Calcareous Nannoplankton, Ostracoda and Conodonts).

The Introduction chapter very briefly gives basic idea about micropalaeontology and microfossils. The application part of microfossils has been dealt with in a concise manner. In the Techniques chapter, sample collection, preparation and separation of microfossils and various kinds of studies which may be taken up, have been discussed.

Basic information on morphology, ecology, technique of study and geological application of five groups of microfossils, viz. Foraminifera, Diatoms, Calcareous nannoplankton, Ostracoda and Conodonts, have been dealt with in Chapters 3 to 7. The information given in the chapters on Foraminifera and Ostracoda is a bit exhaustive but on other fossil groups, it is very brief. Subchapters of Foraminifera on classification, geological application of foraminiferal ecology and application in hydrocarbon exploration are quite comprehensive and

illustrative and useful to students/researchers. Similarly, the subchapters of Ostracoda have been meticulously presented.

The plates on foraminifera and diatoms have been given at the end of the last chapter; these would have been more appropriate with in the concerned chapters. Various pro forma for the description of foraminifera and ostracoda are welcome. Similar pro forma for other fossil groups would have been a useful addition in the book.

Important references have been given at the end of the book which will be helpful to students/researchers who are interested in studying further details of various microfossils.

All the genera (a few species also), families and groups referred to in the book have been listed alphabetically in a Systematic Index.

Geological ranges of the selected microfossil groups with their living environment given at the end of the book will be very useful to the students.

The book is definitely welcome for the graduate and postgraduate students studying micropalaeontology. Addition of basic information in Introduction chapter on several other microfossil groups (like radiolarians, silicoflagellates, acritarchs, dinoflagellates, bryozoans, etc.) including spores and pollens, and microremains of macroinvertebrates and vertebrates would have increased the value of the book. In Introduction, more coverage on stratigraphical micropalaeontology would have benefited the students. Indian examples and some case histories on application of microfossils in geology would have enhanced the utility of the book.

On the whole, the book is a worthy effort by an Indian author, especially for graduate and postgraduate students of palaeontology.

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**PRAKRITI KE RAHASYA K HOLTE NARMADA GHATI KE JEEVASHM** (in Hindi) compiled and edited by Pankaj Srivastava & Gang Vishal Verma. Published by Narmada Sanrakshan Pahal, Indore 452001, under Narmada Sanrakshan Srinkhala, Book-10, First Edition 2011, 316pp, i-xix, Price Rs. 500.

The book published by Narmada Sanrakshan Pahal, Indore is a compilation of the contributions on fossil wealth of the Narmada valley, made by geoscientists, administrators, teachers, media persons and nature lovers. The contributions (including the scientific ones) have been written in simple Hindi.

Various aspects of palaeontological and related aspects of the Narmada valley have been dealt with in 41 chapters.

Chapters 1 to 10 deal with the Introduction of Narmada valley, its geological and mythological/religious history; Chapters 11 to 17 deal with plant fossils and 'Fossil Park'; chapter 18 gives information about fossil invertebrates from the Narmada valley. Chapters 19 to 26 give enormous information about various dinosaurs from the Narmada valley and also in Indian context. Chapters 27 to 29 deal with wealth and variety of fossils recovered from the Narmada valley and their conservation. Chapters 30 to 34 deal with the Narmada Man and its importance. Chapters 35 to 41 mainly deal with the preservation of fossils and conservation of fossil sites.

One of the compilers/editors, Shri Pankaj Srivastava has contributed 7 chapters, the other compiler Shri Gang Vishal Verma has contributed 3 chapters; Dr. M B Bande has

contributed 3 chapters, while both Dr. Dharmendra Prasad and Dr. Jeffery Wilson have contributed 2 chapters each. All others (25 nos., one chapter written jointly by 2 authors) have contributed one chapter each. So, in all, the book has been made possible with the contributions from 30 authors who are experts and well known in their respective fields. It is meticulously compiled and edited by S/Shri Pankaj Srivastava and Gang Vishal Verma.

The Foreword to the book has been written by foremost and internationally recognized vertebrate palaeontologist, Dr. Ashok Sahni who has appropriately penned that the book presents the fossil wealth of Narmada valley like the 'rays of a rainbow'.

In the editorial, one of the editors, Shri Pankaj Srivastava has written about the necessity of bringing such a compilation. He mentions that the study of fossils is a very specialized branch having its own typical terminology, not easily understandable by common men. Also, though there are lot of very good contributions by several leading geoscientists, almost all are in English. So, a compilation in simple Hindi was required to understand the importance of the fossil wealth of the Narmada valley. The editors have very rightly presented the authentic data on the fossil wealth of the Narmada valley with full justification in simple Hindi and in a way which, it is hoped, will be easily understood not only by common men but also by researchers.

Though almost all the chapters present the information on the fossil wealth of the Narmada valley in its own way very nicely, some are specifically noteworthy.

Shri Pankaj Srivastava has presented the history of Earth based on geological data as well as on Indian religious scriptures which is worth reading. There are several chapters on dinosaurs. History of studies on Indian dinosaurs has been given in a well-written chapter by Prof. Ashok Sahni where it is informed that India's first dinosaur was discovered in 1828 in Narmada valley. Sri Pankaj Srivastava and Dr. Sankar Chatterjee have tried to unravel the mystery of the extinction of dinosaurs.

Shri Gang Vishal Verma has provided in a simple manner information about dinosaur eggs, their size, varieties, nesting patterns, etc. Though there is only one chapter on fossil invertebrates, Dr. Tapas Ganguly has provided basic information about various fossil invertebrate groups known from the Narmada valley in a concise manner. Dr. M.B. Bande, in addition to providing detailed information about plant fossils, palaeogeography and palaeoclimate of the Narmada valley, gives in another chapter the philosophical approach to the fossil study as an experienced palaeobotanist. In five chapters on Narmada Man, the importance of the finding and its anthropological value has been enumerated by specialists of the branch.

It is heartening to observe, through contributions made mainly by nonpalaeontologists/geoscientists, their concern about preservation of fossils and conservation of Indian fossil-yielding sites as heritage. Dr. Ram Prasad, while presenting information about Ghughuwa Fossil Park, says that it is the only National Fossil Park in India. This is not correct. Geological Survey of India has declared several National Geological Monuments which include Fossil Parks also.

The References have been given at the end of the book and encompass the suggested readings (references) separately on (i) Introduction, Geology, fossils, etc., (ii) plant fossils, (iii) invertebrate fossils, (iv) dinosaurs and (v) mammalian fossils which will be useful not only to a common man but to a basic researcher on Narmada Valley.

A brief write up including address, photograph, email and phone number of the author given at the end of each chapter is an important part of compilation provided in the book. This helps the reader to know about the expertise of individual author and his contributions to the geology and palaeontological wealth of Narmada Valley.

The book is very well illustrated. Some of the photographs/sketches are like collector's items. All in all, the book is an immensely useful and informative contribution to the fossil wealth of the Narmada valley of central India.

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