

Review of *Evolution of Palaeoecology and Palaeoenvironment of Permian and Triassic Fluvial Basins in Europe*. Detlef Mader. Gustaf Fischer Verlag. Stuttgart. New York, 1992, 2 volumes, 1340 pp., price (hardcover) 350 DM. ISBN 3-437-30683-9.

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This is a comprehensive compilation by Detlef Mader of his field observations in a number of Permian and Triassic fluvial basins in Europe. Described basins include those in South Devon (England), Nottingham area (England), Lodève area (France), Holy Cross Mountains (Poland), Eifel (Germany/Luxembourg), Intra Sudetic area (Czechoslovakia), North Sudetic area (Poland), Tatra Mountains (Poland/Czechoslovakia), Upper Silesian area (Poland), Mecsek Mountains and Balaton Highlands (Hungary), and Teteven Anticlinorium, Iskar Valley, Vitoča Mountains, Belogradcik Anticlinorium, Petrohasan Pass, Trojan Pass, Sviti Ilija Heights, Milanovo Plateau and Meljana Anticline (all Bulgaria). The book is published as two volumes with a total size of more than 1000 printed pages. In Volume 1 basins in Western and Eastern Europe are described, while Volume 2 is devoted to the description of basins in southeastern Europe and in particular those of Bulgaria.

Volume 1 is introduced by a very long and rather unusual preface. In this preface Detlef Mader describes his long interest in Buntsandstein sedimentology and palaeoecology, his publication strategy over the years and the background for the present book. According to Detlef Mader this book is the third highlight in his scientific career and is the so far greatest achievement in his professional evolution. This may well be so but actually it would have been more wise of Detlef Mader to leave out this sort of statements in the preface. The readers are capable to judge themselves the value of the book.

The rest of Volume 1 deals with sedimentary basins in England, France, Germany/Luxembourg, Poland and Czechoslovakia. The description of individual basins is introduced by a chapter on general aspects of investigated basins. This chapter summarizes in a useful way the main results of Detlef Mader's study of the fluvial basins. The Buntsandstein deposits in question are divided into eight megafacies named the German, Anglosaxonian, Alpine, Transdanubian, Carpathian, Iberian, Ludèbian and Balkan megafacies.

The introduction is accompanied by tables summarizing the lithogenesis, palaeoenvironment and palaeoecology etc. of the studied formations. These tables are loaded with information, but unfortunately they have been reduced to a size that make them very hard to decipher.

The following chapters in Volume 1 deal with selected basins in Western and Eastern Europe. Each chapter contains information on lithostratigraphy, sedimentary facies, distribution of facies associations in stratigraphical sequences, depositional history, cyclicity, palaeoenvironmental history, palaeoecological evolution and a comparative evaluation of palaeoenvironments.

The chapters are well organized and all written in a standardized manner. Most commonly, however, the chapters are very long and too wordy and in most cases individual subchapters contain too much repetitive information. As an example chapter 2, which deals with the New Red Sandstone of South Devon (England), has a length of 140 pages (including figures and tables), and general descriptions and

interpretations of depositional environments are repeated over and over. In spite of the strict and standardized manner of the chapters the points and broad idea drown in the load of word and informations. Most chapters are restricted to standard descriptions and interpretations of sediments, depositional environments and palaeoecology. Descriptions of depositional processes and environments are typically presented as facts and not as interpretations that are open to further evaluation and refinement. Underlying controls, such as tectonism and climatic change, are discussed, but rarely in great detail.

The chapters are accompanied by tables (which unfortunately too often have been reduced to the point of little readability), depositional models, and photographs. The photographs are nice (many in colours), and illustrate characteristic sedimentary features of the examined rocks. Some features, however, have been illustrated in far too many examples. The beautiful root structures in the Otter Sandstone (Buntsandstein), as an example, are shown in no less than 26 different photographs, both in colour and in half-tone. Furthermore, there is a disproportion between the numerous photographs of sedimentary features and in what detail they are dealt with in the text.

Volume 2 is basically a continuation of Volume 1 and contains descriptions of a number of fluvial basins in southeastern Europe and in particular those of Bulgaria. Much of the information given here is new and certainly to geologists outside southeastern Europe. The new data therefore serves as a valuable addition to our knowledge of Buntsandstein sedimentation in Europe. At the end of Volume 2 there is an extensive and useful keyword index. The reference list is impressive and counts almost 2000 titles. Mader is represented by 51 papers.

In summary, this book is a valuable compilation of data on Permian and Triassic fluvial depositional systems in Europe. The book serves as a good introduction to the stratigraphy and sedimentology on a number of basins throughout Europe and can as such, be used as basis for more sophisticated analysis of e.g. fluvial architecture, depositional dynamics and cyclo or sequence stratigraphy of the Permian or Triassic sedimentary rocks. In contrast to Detlef Mader (his postface in the book) we believe that there is much room for continued study on the sedimentology, genetic stratigraphy and base level controlled sedimentation of the Buntsandstein basins in Europe. Palaeomagnetic studies of the fluvial deposits and the establishment of a high-resolution magnetostratigraphy are also much needed.

The Triassic of Denmark, which is primarily known from the subsurface, belongs to a marginal German megafacies. Through future work it would be of interest to compare in detail the sedimentology and stratigraphy of the Danish Triassic with those of the classic German sections.

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