to the reader. While I cannot see this book being on many individual's bookshelves, given its high cost, I do believe that it is an indispensible library tool for graduates, academics and professionals alike involved in the application or study of geomagnetism and palaeomagnetism. For those already involved in a particular aspect of this broad discipline it provides a useful pathway to allied subjects.

Graeme Taylor

GYR, A. & HOYER, K. 2006. *Sediment Transport. A Geophysical Phenomenon*. Fluid Mechanics and its Applications Series Volume 82. xi + 283 pp. Berlin, Heidelberg, Dordrecht: Springer-Verlag. Price Euros 94.95, US $119.00, £73.00 (hard covers). ISBN 9781 4020 5015 2.
doi:10.1017/S0016756808004457

The study of sediment transport is complex, and in this book the authors aim to bring together the most recent research with which to present the updated theories of sediment transport. The authors summarize the classical and statistical approaches of the subject, before going on to review common problematic issues that researchers frequently encounter. Only then do they start to present the subject area from a micromechanical standpoint. These chapters centre on the turbulence of flow–sediment interactions and flow separation as it applies to bedforms. It ends with some practical advice on the application of the theories and its formulations. The authors state that they intend for the book to be a course textbook as well as a manual for engineers.

Unfortunately, there isn't really enough room in the initial chapters to cover the classical theories in sufficient detail. The authors recognize this, and they provide an extensive reference list for those interested in more details. However, this makes the book most suited for those students and researchers for whom the initial chapters will be a review rather than an introduction, and who will be more concerned with the later chapters. The authors themselves state that to be useful amongst the large volume of books already available on the mechanics of sediment transport, such a book must include the most recent research results – and the book becomes most interesting as it starts to detail the latest research into turbulent theory, bringing much recent research together in one place. The last chapter, which gives an indication of where each theory should be applied, and when it is acceptable to rely on the classical theories, manages to bring everything together at the end, and will probably be of most use to those looking to apply the theories.

The book is firmly based around transport in rivers, and as such there are certain areas missing that might be expected by those who approach sediment transport from a coastal or marine viewpoint. There is little discussion of cohesive sediments, and there is no coverage of wave-related transport theories, although the material covered is generally applicable outside rivers also.

For a book intended as a textbook the maths is probably off-putting to most students, especially as it starts early on, and uncompromisingly. This book is perhaps not suitable for readers without a firm grasp of mathematics. In sediment transport research as a whole, there is little consistency of symbols, and as such the reader should be prepared to see some symbols he or she may not be familiar with.

On the whole, the book accomplishes what it set out to do: present the most up-to-date theories of sediment transport. However, it is not the easiest book to read, with difficulties in the clarity of the English and large amounts of maths. And for those readers interested in the classical theories, there are clearer and more thorough books on the market.

C. E. L. Thompson

KIELAN-JAWOROWSKA, Z., CIFELLI, R. L. & LUO, Z.-X. 2004. *Mammals from the Age of Dinosaurs. Origins, Evolution and Structure*. xvii + 630 pp. New York: Columbia University Press. Price £126.00 (hard covers). ISBN 0 231 11918 6.
doi:10.1017/S001675680800469X

It is very difficult for any palaeontologist who is not a mammal specialist to keep up with all the wonderful discoveries of fossil mammals over the last decade or so, let alone get any reasonable understanding of the debate over their evolution. A photo of the amazingly well preserved *Eomaia scansoria* from Dawangzhangzhi in China provides the frontispiece to *Mammals from the Age of Dinosaurs*. This hefty volume might look daunting to the non-expert but is well worth exploring as it is very well structured and indexed so that anyone can soon learn how to use the book. I have been very pleasantly surprised to find out how easy it is to recover information about specific topics, no matter whether it is some seemingly obscure locality (all properly located on maps) or stratigraphic horizon – they are all properly documented in Chapter Two. Chapter Three deals with the 'Origin of Mammals' and then the next eleven chapters detail the separate mammalian groups, and the final chapter discusses their interrelationships.

The authors build on the only other general book with similar scope, the 1979 *Mesozoic Mammals: The First Two-Thirds of Mammalian History* edited by Jason Lillegraven, Zofia Kielan-Jaworowska and William Clemens. For authorship of the present volume, only Zofia Kielan-Jaworowska remains from that editorial team. However, Lillegraven and Clemens provide a foreword to the present volume in which they graciously pass the 'intellectual baton' on to the new authors. And as they point out, our understanding of Mesozoic mammalian palaeobiology has progressed in leaps and bounds, just like the locomotion of some of the tiny Mesozoic mammals themselves that Kielan-Jaworowska and her Polish–Mongolian colleagues found in Mongolia back in the 1960s. And, as even these experts exclaim, '. . . oh-my, have there ever been expansions in the taxonomic detail and biological complexities applied to the understanding of these little animals!' Indeed, and we should be grateful to the present authors for assisting us through this particular minefield. This is a volume that any self-respecting zoological or palaeontological library should have on its shelves.

Douglas Palmer

Reference

LILLEGRAVEN, J., KIELAN-JAWOROWSKA, Z. & CLEMENS, W. (eds) 1979. *Mesozoic Mammals: The First Two-Thirds of Mammalian History*. x + 311 pp. Berkeley: University of California Press.