



# Journal of Sedimentary Research

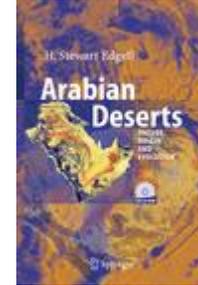
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Colin P. North and Kitty L. Milliken, Editors

A.J. (Tom) van Loon, Associate Editor for Book Reviews

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*Arabian Deserts: Nature, Origin, Evolution*, by H.S. Edgell, 2006.  
Springer-Verlag, Tiergartenstrasse 17, D-69121 Heidelberg, Germany.  
Hard cover, 659 pp. Price EUR 129.95; USD 129.00; GBP 100.00.  
ISBN 1-4020-3969-7.



More and more, the deserts of the world get into the focus of various sciences. Whereas formerly mainly geoscientists were involved in this field of research, atmospheric scientists are now increasingly interested in deserts because they need terrestrial data sources to complement those from ice cores and ocean sediments used in reconstructing the palaeoclimates; these reconstructions are—in turn—necessary to model the future climatic development. Deserts are not only a chiefly climatic phenomenon, they also form valuable archives in which their climatic histories are stored. The evaluation of these archives—particularly in the form of megadunes and dunes—has become possible with the recent development of luminescence-dating techniques using quartz sands.

The Arabian peninsula—almost a sub-continent—is, apart from minor highland areas, fully arid throughout. Although a few early books exist on parts of the Arabian desert, later scientific investigations were restricted to smaller areas and the results were published spread over a large number of journals. An exception is the southeast, which is covered by a contemporary book (by K. Glennie, 2005), including the Wahiba Sands that were the focus of a Royal Geographical Society's Project. The results of this project were published mainly in special reports of *The Journal of Oman Studies* (1988).

This new book by Edgell is the only one that covers the entire Arabian peninsula as well as all literature on the subject, from Herodotus via Lady Blunt (1881) to the year 2006 (Science). The list of references is consequently overwhelming. Moreover, not only geosciences are addressed but interesting information is also provided about history and linguistics.

The book is subdivided into twenty chapters, which are not easy to classify. The first five chapters deal with definitions and types of deserts as well as with the geological and climatic framework and the resulting ecology of Arabia. Chapter 6 is dedicated to the water courses and their special role in the desert environment. Chapters 7-12 deal with sands that cover vast areas in Arabia. All sand seas, all minor dunefields, and all dune types (no strict distinction is made between dunes and megadunes, nor between their different formation dynamics) are listed in three chapters. This makes it somewhat tedious to imagine or understand a particular sand sea as a dynamic morphological, morphogenetic or sedimentary system. This impression is enhanced by the fact that sand sources and the sedimentology of dune sands are dealt with in two different chapters.

After a short chapter on dust and loess (13), chapters 14-18 deal with non-sandy deserts. The subdivision does not follow a leading criterion. Partly the surface type is used (stony and rocky), partly the topographic situation (drainage basins, coasts, mountains), and the remaining "types" are finally described together (plains, steppes, plateaus). It becomes obvious that the same area has to be treated in several chapters (e.g. a stony coastal plain) which leads to a certain redundancy. The concept of arranging chapters not regionally but according to single aspects is

most probably a consequence of the incorporation of such a wealth of special—sometimes controversial—publications.

The 19<sup>th</sup> chapter on dating methods gives a brief but efficient account on 35 methods, grouped according to their scientific background; it includes all datings carried out in Arabia so far. The last chapter presents a good summary of the evolution of the Arabian deserts from the late Precambrian erosional surface via volcanism, arid and wet intervals to the present aridity.

This is a book where the reader can find many interesting details about Arabia and a wealth of up-to-date literature in the references. In addition, the index of geographical names and the glossary of Arabic terms are very valuable, The numerous illustrations, in their majority photographs and aerial images, differ in quality. The book may be used with great profit as an encyclopedia of facts about Arabian deserts, also with regard to dated materials and events, and as such will be welcome in scientific libraries.

H. Besler  
Geographisches Institut  
Universität zu Köln  
Albertus Magnus Platz  
D-50923 Köln  
Germany  
email: ade58@uni-koeln.de



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