



***Sedimentary rocks in the field - a practical guide*** (4<sup>th</sup> ed.), by M.E. Tucker, 2011. Wiley-Blackwell, Chichester, England (order through: [www.wiley.com/wiley-blackwell](http://www.wiley.com/wiley-blackwell)). Paperback, xi + 276 pages. Price EUR 27.00. ISBN 978-0-470-68916-5.

The new edition of Tucker's practical guide comprises all information necessary to address the fact that sedimentary rocks dominate the rocks that are accessible in the field. Less than 300 small-sized pages are nevertheless enough to show what and how to deal with an outcrop with such sedimentary formations (chiefly ancient, i.e., lithified).

Tucker does so in eight chapters. These are focused on preparation for fieldwork, techniques, rock types, textures, structures, fossils, paleocurrents, and facies. In order to illustrate how these general subjects are treated, let's look at the fourth chapter, which is devoted to textures. Brief introductory remarks are followed by explanations on grain size and morphology. Then, fabric and textural maturity are addressed. In a separate section, attention is paid specifically to conglomerates and breccias. This chapter ends with a discussion of weathering and rock color, which is quite uncommon in this type of book. Limestone structures are dealt with in section 5.4 where Tucker characterizes cavities (including geopetal structures, fenestrae, etc.), paleokarst, hardgrounds, microbialites (including tufa), and what are called "microbially induced sedimentary structures in sandstones". These examples of sedimentary phenomena are demonstrated 'in-depth'.

The numerous classifications (given directly in the text or presented in tables and figures) and checklists are valuable pieces. Where possible, the author tries also to give us well-established, but simple nomenclature. Besides common classifications of sandstones and limestones, classifications are present for dolomites, bedding planes and bed contacts, spacing of discontinuities, etc. A rather extensive nomenclature of facies is given in the last chapter, and their distinctive features (including lithologies, textures, structures, geometries, etc.) are summarized in tables that all have a similar style. The wealth of classifications certainly enriches the book. As for the checklists, these provide practical advice for fieldwork. As an example, Table 5.3 is a step-by-step guide for the study of cross-stratification, whereas Table 5.7 prescribes how trace fossils should be investigated.

Tucker's book has some features that make it a very special one. In the first place, not only common, but also some special sedimentary rocks (ironstones and phosphorites) are characterized (but, surprisingly enough, I found nothing on diatomites, and some other, comparable omissions are notable). Second, sequence stratigraphy is promoted as a very important sedimentological approach. Third, adequate attention is paid to fossils (with some important attention for taphonomy and paleoecology). Fourth, ichnofossils, ichnofacies, and bioturbation are specially acknowledged. Fifth, a special chapter is devoted to paleocurrents and their analysis in sedimentary formations. Finally, much is told about sedimentary bodies, which is something more than commonly speaking about rock composition. Taking all this together, one can conclude only that this is a truly impressive work, in spite of its comparably small size. Only one large subject is lacking. Sedimentary rocks are not only Phanerozoic in age, and, therefore, the principles of Precambrian sedimentology should have been given special attention.

The book, indeed, is comprehensive, especially with regard to those phenomena that are visible in the field (mainly objects, not processes), and Tucker's explanations are concise. He has found a good balance between saying something general and paying attention to tiny details. In other words, his text provides the essential information. The book is illustrated richly. Photos, schemes, diagrams and tables are present, but they are, as a rule, supplementary to the text and do not dominate the book. Unfortunately, the geological time scale that is present in Tables 2.7-2.9 is not adequate: the International Commission on Stratigraphy has established a more modern version that is to be found on-line at [www.stratigraphy.org](http://www.stratigraphy.org), and to which the reader should rather have been referred. The book is well organized, but I found some topics discussed in a haphazard way. For instance, sequence stratigraphy is explained twice - together with lithostratigraphy in the beginning, and together with facies near the end of the book. Similarly, the information on sedimentary beds is scattered over Chapters 2 and 5. The importance of this book is, however, not really affected by such shortcomings.

This little book obviously is not (and can, by definition, not be!) an alternative for the thick reference volumes and textbooks on sedimentology. For such books the reader is referred to books by Boggs (2006), Nichols (2009) and Leeder (2011). However, just imagine yourself on a field trip or sitting at your desk and solving a particular task. Or think about those colleagues who are not sedimentologists, but need quick professional advice on a specific sedimentological issue. In such situations, you and your colleagues certainly would prefer Tucker's book to the voluminous books mentioned above. Finally, many beginners need information in a fairly condensed

form. For them, nothing can be better than Tucker's book. Note also that it contains more information on some subjects than other syntheses. Therefore I recommend the book strongly to a large group of geologists, including professionals, students (of all grades) and their teachers, and even amateurs.

#### References

- Boggs Jr, S., 2006. Principles of sedimentology and stratigraphy (4<sup>th</sup> ed.). Pearson Prentice Hall, Upper Saddle River, 662 pp.
- Leeder, M.B., 2011. Sedimentology and sedimentary basins: from turbulence to tectonics (2<sup>nd</sup> ed.). Wiley-Blackwell, Chichester, 768 pp.
- Nichols, G., 2009. Sedimentology and stratigraphy (2<sup>nd</sup> ed.). Wiley-Blackwell, Oxford, 419 pp.

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