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BOOK REVIEW

Josip TIŠLJAR: Sedimentologija karbonata i evaporita

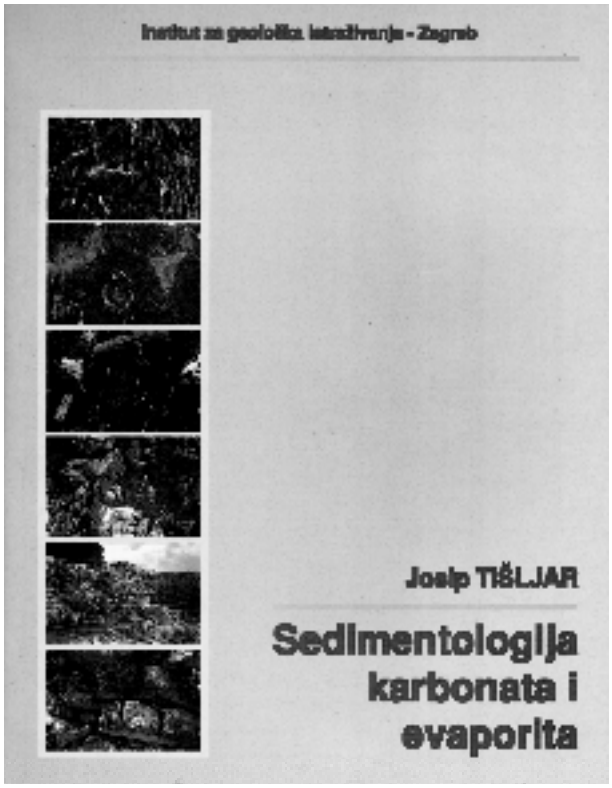
(in Croatian - Sedimentology of Carbonates and Evaporites)

X+375 p., 125 illustrations, 500 copies, Institute of Geology, Zagreb, 2001,
ISBN 953-6907-00-3

Professor Josip Tišljar has previously published 3 books: Petrologija sedimentnih stijena (Petrology of Sedimentary Rocks; Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb, 1987), Sedimentne stijene (Sedimentary Rocks; Školska knjiga, Zagreb, 1994) and Petrologija s osnovama mineralogije (Petrology with Basics of Mineralogy; Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb, 1999), all written in Croatian. His fourth book is completely dedicated to his speciality - carbonate sedimentology.

Carbonate sedimentology is one of the geological disciplines that has progressed immensely in the last thirty years. Therefore this book, as the first Croatian book completely dedicated to this field, will represent a textbook for students, handbook for everyday use for many geologists, and a source of detailed information for specialists, needed for solving specific problems in carbonate rocks. The book is written very clearly, and is characterised by a very mindful approach to this wide scientific field, with specific emphasis on Croatian examples (almost all the photographs were collected by the author or his collaborators, during extensive investigations of the Adriatic Carbonate Platform).

The book "Sedimentologija karbonata i evaporita" was reviewed by Dr. Sc. Igor Vlahović, Dr. Sc. Ivo Velić and Academician Vladimir Majer, the publisher is the Institute of Geology, Zagreb - represented by Mr. Sc. Đuro Benček, and was prepared by Ivo Velić, editor-in-chief, and Igor Vlahović, managing editor.



The book comprises 375 pages divided into 3 parts.

Part I encompasses 160 pages of text and illustrations on:

- definition and division of carbonate rocks - limestones and dolomites, marls and marlites, breccia, conglomerates and carbonate sandstones;
- mineral composition of carbonate sediments and limestones - physical, chemical, biological and geological conditions of their origin, the main controls on carbonate deposition in shallow and deep seas, carbonate deposition rates, as well as primary structural components of limestones;
- classifications of limestones - classification by Dunham with emendations of Embry & Klovan, classification by Folk, classifications of fresh-water and terrestrial limestones;
- limestone diagenesis - diagenetic processes and areas, dissolution and transformation of unstable carbonate minerals, micritization, cementation and cement types, recrystallization, silicification, anhydritization, and burial diagenesis;
- dolomitization and dolomites - chemical, physical and petrological conditions of their formation, different models of early-diagenetic dolomitization, late-diagenetic dolomitization and burial dolomitization, dolomites as rocks, dedolomitization and dedolomites;

- carbonate clastic rocks - composition and structure of carbonate conglomerates and breccia deposits, carbonate sandstones - calcarenites and calcareous sandstones, marls and marlites;
- porosity and organic matter in carbonate rocks.

Part II, Evaporite deposits, is composed of approximately ten pages of text and illustrations on gypsum, anhydrite and salts.

Part III, Depositional environments and facies of carbonate and evaporite deposits, comprises c. 135 pages of text and illustrations on:

- main characteristics of depositional environments and facies - division of depositional environments, relation between depositional environments and facies;
- carbonate platforms - definition and division of carbonate platforms, facies belts and standard microfacies of carbonate rocks;
- cyclical deposition, carbonate cycles and sequences, including stacking patterns of carbonate sequences and sequence stratigraphy;
- shallow-water carbonate depositional system - characteristics of carbonate deposits emerged into the vadose or subaerial zone and rocks influenced by emersion and palaeokarstification, peritidal, supratidal and tidal flat environments, sabkha conditions, subtidal environments of the inner platform area, coastal high-energy environments, reef complexes;
- deep-water and marine environments of carbonate deposition - conditions of carbonate deposition in the deeper sea, redeposited carbonates and carbonate turbidites, pelagic limestones, chalks;
- lacustrine environments of carbonate deposition - general physico-chemical and sedimentological conditions of lacustrine deposition, lakes with predominant carbonate deposits, deposition in hydrologically closed (and saline) lakes.

A long list of references (circa 20 p.) comprises 447 references of the most important Croatian and international papers and books on carbonate sedimentology.

The practical value of the book is additionally improved by a very carefully prepared dictionary with translation and description of 396 international terms (circa 20 p.), and an index (28 p.) enabling easy access to the extensive information contained within this volume.

The price of the book is 225 kn (approximately 30 EUR).

We are positive that this hand-book will be very useful to everybody dealing with carbonates, from students of all levels to carbonate sedimentologists, geologists of other specialisations, but also to other professionals - e.g. civil engineers, mining engineers, pedologists, agronomic engineers, foresters, etc. - who are involved in any way with the study of carbonates and evaporites in their professional and scientific work.

Igor VLAHOVIĆ & Ivo VELIĆ