



**Cretaceous Rudists and Carbonate Platforms:
Environmental Feedback**, 2007, edited by Robert W. Scott,
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The international community of researchers dealing with rudists is very small, and each of their major meetings—International Congress on Rudists—attracts most of them to gather and exchange their views in a friendly atmosphere. If you ever had an opportunity to join them you definitely know that they, in addition to rudists, share a love for fieldwork, as well as for good food, good wine, and good music. Through the years, since the first congress was held in Belgrade in 1988 (Serbia, at that time Yugoslavia), through meetings in Rome 1990 (Italy), Mexico City 1993 (Mexico), Marseille 1996 (France), Erlangen 1999 (Germany), Rovinj 2002 (Croatia), Austin 2005 (Texas, USA; the one that we are dealing with here in this book review), and the recent one held in Izmir (Turkey) in 2008, their scientific interests diverged widely, but they are still united by a true love for rudists, which are quite fascinating animals.

The Seventh International Congress on Rudists was held in Austin, Texas, from 5–11 June 2005, organized by Robert W. Scott (Precision Stratigraphy Associates and Tulsa University) and Ann Molineux (Texas Memorial Museum, University of Texas at Austin). This was the second rudist congress organized outside Europe, with 45 participants from 13 countries. Out of 58 talks and posters presented at the congress, only 20 papers were published in the book edited by Robert W. Scott. All papers were peer reviewed, and Bob managed to find high-quality reviewers; 24 out of 30 reviewers were not authors of any contribution in the book, which is quite an impressive achievement when you deal with such a specific and small scientific community. This practice ensured a high quality of contributions published in September 2007, two years after the congress.

The book honored Dr. Keith Young and Dr. James L. Wilson, whose careers have been devoted to the Cretaceous Period, and is divided into three sections, reflecting three congress themes.

“Theme I: Depositional Environments of Cretaceous Carbonates” encompasses seven papers dealing with topics of interest to a wider audience, especially carbonate sedimentologists and petroleum geologists working on reservoir prediction. Carannante et al. discuss very complex systems in Cenomanian carbonate depositional settings of the central-southern Apennines, resulting, among other controls, from interplay of contemporaneous worldwide anoxic events and intense local

synsedimentary tectonics with feedback of rudist communities. This complex system resulted in a very complicated pattern of different organic assemblages and variable mechanisms of skeletal debris distribution, representing a good case study for correlation with other areas sharing a similar geological history. Cestari and Pons focus on differences in distribution of different radiolitid taxa recorded in Cretaceous deposits of the central Italian carbonate platforms, including their growth rates and morphostructural characteristics in response to the media (i.e., substrates) properties, sedimentation rates, and hydrodynamics of their habitats. Moro et al. study upper Cenomanian deposits in southwestern Istria (Croatia), characterized by the co-occurrence of radiolitids and dinosaur tracks belonging to different genera, stressing the relevance of dinosaur footprints as an important tool for paleoenvironmental reconstruction. Negra and Zagarni discuss Turonian and Campanian tempestites in Tunisia formed within rudist limestones in different depositional environments, as well as adaptation of rudists to the stressful environments. Ruberti et al. study in detail sedimentary processes and biofacies of the Upper Cretaceous low-energy, temperate-type carbonate ramps in southern Italy, including macrofossils, microfossils, and studies of facies and depositional environments characterized by gradual transitions. Trevisani and Cestari provide interesting explanations for rudists found within the Upper Cretaceous basinal Scaglia deposits, tens of kilometers from any of the known carbonate platforms: instead of the traditional interpretations of a gravitational transport they propose their *in situ* origin in the lower photic zone of the isolated basinal highs. Mitchell et al. describe paleoecology of different species of the Maastrichtian rudist *Biradiolites* in Jamaica.

“Theme II: Origins, Events, and Demise of Rudist Paleocommunities” is covered by eight papers mostly concerned with detailed study of rudist communities. Götz describes results of a very detailed, high-resolution, quantitative study of 800 rudist individuals found within two dense rudist associations: one from Northern Calcareous Alps, Austria, and the other from the Adriatic Carbonate Platform, Croatia. By three-dimensional study of serial cuts at 1.0 and 0.5 mm spacing, it was possible to analyze associations through space and time and study relationships of reproductive cycles, population dynamics, and environ-

mental conditions. Regidor Higuera et al. study geochemistry and cathodoluminescence behavior of different microstructure types of Late Cretaceous radiolites of Spain, in order to enable reconstruction of the living position of rudists in the intertidal zone based on microrhythms recorded in a shell microstructure. Korbar discusses intra-association development of the Upper Cretaceous biradiolite bouquet from the island of Vis (Croatia), showing preferred orientation of their shells since juveniles that attached upstream on other host shells had a better chance to survive. Steuber et al. study rich communities of latest Maastriichtian (66.4 Ma) rudists of Apulia (Italy) and Greece and, by comparison with contemporaneous associations from the Caribbean, suggest a catastrophic rather than gradual nature of their extinction. Up to now, there is clear evidence for the pattern and cause of the extinction. Masse and Steuber present a study of the strontium isotope stratigraphy of Early Cretaceous rudists from southeastern France, showing that isotope values generally correspond well with biostratigraphic data, with the exception of some parts of the curve (especially Barremian–early Aptian), which still seems poorly defined. Scott and Filkorn define five new Barremian to Albian rudist zones integrated with the well-known ammonite zones of the Gulf Coast Region (USA). Scott et al. study coral-rudist biostromes and caprinid bioherms within the sequence stratigraphy framework of the lower Albian of the Glen Rose Formation of Texas (USA). Ward and Ward focus on the stratigraphy of a middle part of the same formation in Canyon Lake Gorge in Central Texas (USA), where they defined 62 high-frequency cycles, which are part of at least two larger-scale, lower-order sequences.

“Theme III: Towards Rudist Taxonomy, Biogeography and Phylogeny” is composed of five papers. Chikki-Aouimeur makes a detailed study of Late Cretaceous hippuritids of Algeria, presenting a critical review of existing literature published during 150 years of investigation of Algerian Cretaceous stratigraphy, including corrections of erroneous data. Masse et al. present their results on the lower Albian deposits of the Baja, California

(Mexico), pointing out the endemic character of the Albian forms and clear differentiation of the Old World and New World fauna. Molineux and Triche describe the rudist taxonomic collection created at the Non-Vertebrate Paleontology Laboratory of The University of Texas at Austin, composed of 14,000 specimens that represent more than 120 species mostly collected from Aptian to Campanian of central and western Texas and northern Mexico. This collection, which includes over one-third of the catalogued specimens without clear determination, represents a good basis for future active research, especially since it will shortly be available to query online. Scott and Hinote describe Barremian to early Aptian rudists of the subsurface Sligo Formation of Texas, and correlate them with benthic foraminifera and nannofossil zones, as well as their position in respect to OAE1 chemostratigraphic event. And finally, Scott gives a description of key bivalves of the lower Albian Glen Rose Formation (Texas, USA), especially two ostreiform species showing adaptive convergence that resulted in homeomorphs.

Presented papers gave a balanced overview of different trends in contemporary research on rudists, and this variability of approaches resulted in a book that is interesting not only for rudist specialists but also for many of us interested in Jurassic and Cretaceous marine carbonates.

In the meantime, the 8th International Congress on Rudists was held in Izmir, Turkey, in June 2008, and papers resulting from this meeting are expected to be published in the Turkish Journal of Earth Sciences. The 9th International Congress on Rudists will be held in 2011 in Kingston, Jamaica.

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