Geological Quarterly, 2014, **58** (1): 40
DOI: http://dx.doi.org/10.7306/gq.1156

Isotopic Studies in Cretaceous Research by Bojar, A.-V., Melinte-Dobrinescu, M.C., Smit, J. (eds.), Geological Society Special Publications 382, London, 2013.

The book is devoted to the stable isotope composition, element geochemistry, faunistic assemblages and stratigraphy of Cretaceous (and Cretaceous-Paleogene boundary) deposits from various localities. The book (221 pages) consists of eleven, consecutive chapters written be thirty eight different authors:

Barbu – presents stratigraphy, isotope data, and analyses of TOC and $CaCO_3$ contents of Valanginian-Lower Hauterivian marine carbonates from Bucegi Mountains (Romania). The data show positive carbon isotope excursion at the Lower-Upper Valanginian boundary. The excursion correlates with a demise of nannoconid fauna and is linked to an increase in pCO_2 and fertilization of sea water occurring during the global oceanic anoxic event ("Weissert OAE").

Gaona-Narvaez et al. – study stratigraphy, carbon contents and isotope composition of organic matter from the marine Middle Barremian-Lower Aptian of Eastern Cordillera (Columbia). Strata coeval with global Oceanic Anoxic Event-1a ("Selli OAE") are missing there due to the presence of a stratigraphic gap. High Lower Aptian $\delta^{13}C_{org}$ values are linked, by the authors, to post-anoxic isotope stages C6 and C7. The presence of the stratigraphic gap is a good example of local sedimentologic effects on the isotope record.

Papp and Cociuba – compare published bulk carbonate oxygen and carbon isotope data from various Lower Cretaceous Carpatho-Panonian sections (Hungary, Romania, Slovakia). Detailed chemostratigraphy of Hauterivian-Albian shallow-water carbonate platform deposits in Apuseni Mountains (Romania) allowed the authors to recognize global oceanic anoxic events – OAE-1a and OAE-1b. Black shales do not occur in this area due to shallow-water settings. The carbon isotope stratigraphy is successfully used to correlate studied sections.

Melinte-Dobrinescu et al. – present nannofossil data and isotope values of bulk carbonates from the Cenomanian-Turonian boundary in Arobes (northern Spain). Pronounced variations in abundances of nannofossil assemblages are linked, by the authors, to sea water productivity changes occurring during the global Oceanic Anoxic Event-2 ("Bonarelli OAE"). Studied $\delta^{13}C_{carb}$ record despite being derived from shallow marine carbonates reveals features typical of coeval intervals in deep marine sections.

Silva et al. – investigate stable isotope and elemental composition of continental-marine strata from the Cretaceous-Paleogene boundary in Paraíba Basin (northeastern Brasil). Mercury enrichments and anomalies in the oxygen and carbon isotope records, which are observed around the boundary, are interpreted as a result of the Deccan traps volcanism. Negative anomalies in Ce contents are given as an evidence for the occurrence of reducing conditions during the marine transgression in the basin.

Bojar and Bojar – have document variations in $\delta^{13}C_{org}$, TOC, mineralogy and nannofossil fauna across the Cretaceous-Paleogene boundary in deep-sea sediments in East Carpathians (Romania). The study reveals mass extinction of nannoplankton at K-Pg boundary, which is followed be a bloom of survivor taxa. Decreases in $CaCO_3$ and TOC contents as well as in $\delta^{13}C_{org}$ values are also observed at the boundary.

Hofer et al. – use bulk carbonate stable isotope ratios and nannofossil abundance data to distinguish between marine and non-marine Upper Cretaceous sediments of the Gosau Group (Vienna Basin, Austria and Slovakia). The authors claim that that the palaeoenvironment may be determined using stable isotopes and statistical tests despite diagenetic alteration and detrital carbonate admixtures observed in some parts of the sections. This is, however, not fully documented taking into account a noted difference between both carbon and oxygen isotope values and strontium isotope signal.

Suarez M.B. et al. – have analyse bulk carbonate oxygen and carbon isotope record and the carbon isotope composition of organic matter from lacustrine Lower Cretaceous sediments in the Changma Basin (Gansu Province, China). A negative excursion in $\delta^{13}C_{org}$ values followed by an increase in $\delta^{13}C_{org}$ values correspond to C3–C6 stages of the Early Aptian Oceanic Anoxic Event-1a ("Selli OAE"). The organic matter isotope record allowed precise dating of sediments and section correlation.

Gratzer et al. – study mineralogy, organic geochemistry, and stable isotope composition of carbonates and organic matter fractions from the Aptian lacustrine succession of the Jatobá Rift Basin (northeastern Brasil). The data are used to construct a model of sedimentation, to determine palaeohydrological conditions and to find a source of organic matter supplied to the sediments.

Suarez C.A. et al. – present dinosaur tooth and palaeosoil siderite oxygen isotope data from the Campanian–Maastrichtian in northern Alaska (USA). The data are used to reconstruct $\delta^{18}O$ values of local precipitation and climate variability. The authors argue that low $\delta^{18}O$ values of meteoric waters in northern Alaska, under temperate local climate, resulted from an intensified hydrological cycle and an enhanced equator to poles heat transport, which was a feature of a "greenhouse" world. The data would be, however, more convincing if the authors had screened the preservation state of studied dinosaur teeth using cathodoluminescence or rare earth element analyses.

Bojar et al. – investigate Upper Cretaceous calc-alkaline volcanoclastic rocks form Haţeg Basin (Romania). Oxygen, hydrogen and strontium isotope compositions are used to reconstruct magma migration and the ratio of its contamination with crustal material. The last section of the book is, unfortunately, not connected to its main subject – studies of Cretaceous depositional environments.

The book is an important contribution to knowledge of the environment and the sedimentology of the Cretaceous and does not contain major shortcomings. Figures are of sufficient resolution and of good quality. The book contains new data from sections, which were previously poorly studied. The authors of the book use well-known geochemical techniques so, the data reported may be compared with the previously published information. The principal disadvantage of the book is, however, the fact that the authors do not study isotope and elemental composition of carbonate or phosphate marine fossils, which may allow palaeotemperature reconstructions, and do not use most modern geochemical methods as clumped isotopes, elemental and biomarker temperature proxies. The significance of the book to the climate reconstruction of the Cretaceous is, thus, limited. The authors of the book have, nevertheless, gained and interpreted lots of essential data for geochemical, faunistic and sedimentologic studies of the Cretaceous.

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