

## Workshop of the Subcommittee for the Jurassic/Cretaceous Boundary, International Commission for Stratigraphy in Sofia, 2011

A Workshop of the JKB Subcommittee of the ICS was held in the Geological Institute of the Bulgarian Academy of Sciences (Geologicheski Institut ot B'lgarska Akademia na Naukite) in Sofia during October 26–28, 2011. The meeting under the leadership of William W. Wimbledon was organized by Daria Ivanova, Kristallina Stoykova and Iskra Lakova. It was attended by 27 members from Bulgaria, Czech Republic, France, Great Britain, Mexico, Russia, Slovakia, Tunisia and Ukraine. Two days of oral communications and discussions were completed by a field trip to the beautiful Barlya sections exposing a complete pelagic Upper Jurassic–Lower Cretaceous sequence.

The JKB Subcommittee has operated for three years collaboratively as a working group, with important workshops in Bristol (July 2007), Marseilles (April 2008), Milan (March 2009), Plymouth (September 2009), Smolence (April 2010), Paris (November 2010) and Sofia (October 2011).

The Jurassic/Cretaceous Boundary as the base of the Cretaceous System is the last system boundary to have a GSSP (Wimbledon et al. 2011). The Mesozoic biostratigraphical scale is primarily based on ammonites. However, from the end of the Jurassic time until the end of the Berriasian, ammonites survived an evolutionary crisis and, therefore, findings of stratigraphically important indexes are rare. Moreover, the problem is how to match the Tethyan biostratigraphic division based on berriasellid ammonites (and on later found calpionellids, nannoplankton and radiolarians), as opposed to the Boreal craspeditid ammonites, buchiid bivalves, or belemnites (Zakharov et al. 2006; Žák et al. 2011). Prolonged isolation of individual basins within the Boreal and Tethyan realms, prevalence of non-marine sequences across the J/K boundary and extensive erosion during both the Cimmerian and Palealpine orogenic movements have combined to produce a “correlative enigma” for geologists (Wimbledon 2008).



Nevertheless, during the last decade, successful attempts have been made to correlate different divisions with the use of calpionellid plankton (Lukeneder et al. 2009) and/or nannoplankton remains (Bornemann et al. 2003; Tremolada et al. 2006), magnetostratigraphy (Houša et al. 2007; Channel et al. 2010), carbon and oxygen isotopes (Gröcke et al. 2003; Weissert & Erba 2004; Žák et al. 2011).

The only reliable way to calibrate different sections in different paleogeographic domains and to establish the exact position of a globally acceptable Jurassic-Cretaceous boundary is a complex HIRES evaluation. Only full application of all accessible methods (cyclostratigraphy, geochemistry with palynomorph, radiolarian and foraminifer stratigraphy) can yield a globally applicable tool. Hopefully, progress in this direction will be demonstrated at the next JKB WG meeting in Tunisia, in 2012.

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