

The Barremian GSSP–state of the art

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Following the discussions at and after the 2nd Symposium on Cretaceous Stage Boundaries (Brussels, 1995), the Barremian Working Group decided to recommend drawing the lower boundary of the Barremian stage at the base of the *Taveraidiscus hugii* ammonite Zone (defined by the FO of the index species). Concurrently, the Río Argos section (Caravaca, SE Spain) was selected as the best candidate for the Barremian GSSP. During the last years we have been carrying out an integrated analysis of this section including biostratigraphy (ammonites, planktonic and benthic foraminifera, and calcareous nannofossils), chemostratigraphy (organic matter and stable isotopes) and cyclostratigraphy (magnetic susceptibility and clay mineralogy). Unfortunately, a secondary remagnetization precludes any magnetostratigraphic dating, although indirect correlation by ammonite and isotope stratigraphy with the Gorgo a Cerbara section (central Italy) allows to correlate the Hauterivian-Barremian boundary with the upper part of chron M5n (CHANNELL et al., 1995).

The main problems concern the correlation potential of the primary marker event. Due to the persistence of a relatively low eustatic sea level during the latest Hauterivian and early Barremian, many marine basins became isolated, which triggered a high degree of endemism among many fossil groups, strongly hampering interregional correlation. Thus, the index species has not been reported outside the Mediterranean region (from Spain to the Caucasus). And no other biostratigraphic event appears to be a better alternative for defining and correlating the base of the Barremian. Nevertheless, Sr-isotope stratigraphy can provide an independent and reliable test of the established biostratigraphic correlations (MUTTERLOSE et al., 2014).

CHANNELL, J.E.T. et al., 1995. *Earth Planet. Sc. Lett.*, **134**, 125–140.

MUTTERLOSE, J. et al., 2014. *Cretaceous Res.*, **50**, 252–263.