Geophysical Research Abstracts
Vol. 16, EGU2014-5308-1, 2014
EGU General Assembly 2014

Upper Albian-Maastrichtian calcareous plankton biostratigraphy, magnetostratigraphy and carbon isotope stratigraphy of the classical Tethyan Gubbio section (Italy)

Isabella Premoli Silva (1), Rodolfo Coccioni (2), Nadia Sabatino (2), Mario Sprovieri (3), and Silke Voigt (4)

(1) University of Milan, Department of Earth Sciences, Milan, Italy (isabella.premoli@unimi.it, 390250315494), (2) DiSTeVA, Università degli Studi di Urbino "Carlo Bo", 61029 Urbino, Italy, (3) Istituto per l'Ambiente Marino Costiero (IAMC-CNR), Capo Granitola, via del Faro 3, 91021 Campobello di Mazara (Tp), Italy, (4) Institute of Geosciences, Goethe-University Frankfurt, Altenhoeferallee 1, 60438 Frankfurt am Main, Germany

The Tethyan pelagic sections at Bottaccione and Contessa Highway (Gubbio, central Italy) are internationally recognized to be the standard reference sections for the Late Cretaceous to Eocene geomagnetic polarity time scale calibrated to the integrated planktonic foraminiferal and calcareous nannofossil biostratigraphy. Due to the presence of a gap within Chron C31n in the Bottaccione section, we use two distinct portions of these sections to construct an upper Albian-Maastrichtian complete and well-preserved composite stratigraphic record, 333.1 m in thickness and ∼37 Myr in duration.

A refined magnetostratigraphy and planktonic foraminiferal and calcareous nannofossil biostratigraphy is here presented for this stratigraphic succession. In particular, the recovery of planktonic foraminifera successfully disaggregated from the hard lithologies allows to place more precisely several bioevents that include the lowest occurrence (LO) of *Thalmanninella globotruncanoides* defining the Albian/Cenomanian boundary, the LO of *Globotruncana linneiana* that approximates the base of the Santonian, the LO of *Globotruncana aegyptiaca* occurring earlier than previously recognized, the LO of *Pseudoguembelina palpebra*, and, in addition, the well-constrained and complete pattern of the evolutionary origin of *Racemiguembelina fructicosa* from *Pseudotextularia elegans* through *Pseudotextularia intermedia* and *Racemiguembelina powelli* previously undetected. Moreover, the highest occurrence of *Gansserina gansseri* and the LO of *Plummerita hantkeninoides* allow to subdivide the latest Maastrichtian into the *Pseudoguembelina hariaensis*, *Pseudotextularia elegans* and *Plummerita hantkeninoides* planktonic foraminiferal Zones. The refined magnetobiostratigraphic framework may improve reliability of Late Cretaceous correlations at low to middle latitude as well as paleoenvironmental, paleoclimatic and paleoceanographic interpretations. Finally, an almost complete, high-resolution carbon isotope curve was recently presented for the upper Albian through the Maastrichtian interval from the Bottaccione-Contessa succession that integrated with the updated bio-, magneto-stratigraphies provides an invaluable tool for improving correlations through latitudes.