Abstract Volume

INTEGRATED STRATIGRAPHY OF THE UPPERMOST HAUTERIVIAN-LOWER BARREMIAN PELAGIC SEQUENCE OF ARROYO GILICO (BETIC CORDILLERA, SE SPAIN)

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An integrated stratigraphic study has been carried out on the Arroyo Gilico section, located in the pelagic domain (Subbetic Zone) of the Betic Cordillera. Stratigraphic distribution of ammonites, calcareous nannofossils and planktonic foraminifera, as well as the evolution of the $\delta^{13}C$ and $\delta^{18}O$ records and clay mineralogy, have been analysed and correlated for the interval spanning from the uppermost Hauterivian up to the lowermost Upper Barremian.

Ammonites are abundant and well preserved, which has enabled the precise identification of all the Mediterranean standard zones (Reboulet et al., 2006) included in this interval; i.e., from bottom to top, the *Crioceratites balearis*, *Pseudothurmannia ohmi*, *Taveraidiscus hugii*, *Kotetishvilia nicklesi*, *Nicklesia pulchella*, *Kotetishvilia compressissima*, *Coronites darsi*, and *Toxancyloceras vandenheckii* Zones.

Calcareous nannofossil assemblages are, in general, highly diverse. They have a strong Tethyan character, being largely dominated by the genera *Watznaueria*, *Nannoconus*, *Micrantholithus*, *Lithraphidites*, *Diazomatolithus* and *Rhagodiscus*, although the genera *Biscutum*, *Zeugrhabdotus*, *Discorhabdus* and *Assipetra* are also common. The interval studied corresponds to the Subzones NC5B, NC5C and NC5D of Bralower et al. (1995). The boundary between the Subzones NC5B and NC5C, marked by the LO of *Lithraphidites bollii*, coincides with the boundary between the *P. ohmi* and *P. mortilleti* ammonite subzones and with the base of the Faraoni Level equivalent. Other significant events are the FO of *Nannoconus circularis*, recorded in the upper part of the *P. mortilleti* Subzone, and the LO of *Calcicalathina oblongata*, which marks the boundary between the Subzones NC5C and NC5D, within the *K. nicklesi* ammonite Zone.

Planktonic foraminifera are represented exclusively by praehedbergellids (mainly the genera *Praehedbergella* and *Gorbachikella*). Specimens with radially elongate chambers (belonging to the species *P. similis* and *P. eocretacea*) are especially abundant (up to 50% of the entire assemblage) between the upper part of the *K. compressissima* Zone and the lowermost part of the *T. vandenheckii* Zone. The FO of *Globigerinelloides blowi* has

been recorded in the lower part of the *T. vandenheckii* Zone.

The curve displays a gentle increase (from 1.1‰ to 1.6‰) throughout the uppermost Hauterivian, punctuated by a more accelerated shift corresponding to the Faraoni Level equivalent. The general trend becomes slightly negative in the lowermost Barremian, until reaching a minimum (0.5‰) in the middle part of the *K. compressissima* Zone. From this point, mean values of $\delta^{13}C$ rapidly increase up to reach a maximum (1.9‰) in the *T. vandenheckii* Zone.

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