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Integrated planktic foraminifera, calcareous nannoplankton, and nummulitid biostratigraphy of a Maastrichtian to Priabonian deep-water sequence from the Sierra del Maigmo, SE-Spain

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The Sierra del Maigmo in the eastern Prebetic Zone (Betic Cordillera, Alicante Province, south-eastern Spain) provides a succession of marls and limestones deposited in a bathyal paleo-environment. The c. 500 m thick rocks are rich in distal to proximal turbidites and represents a shallowing upward sequence with thin and fine-grained turbidites at the base developing into thick and coarse-grained ones at the top. While most planktic foraminifera and calcareous nannofossil from marls can be considered to be autochthonous, the found nummulitids are components of the turbidites and thus transported from adjacent shelf settings (allochthonous). This setting gave the opportunity to study contemporaneously deposited shallow and deep-water fossil assemblages in combination. We present the biostratigraphic results for planktic foraminifera, calcareous nannofossils, and larger foraminifera (nummulitids) and compare the derived zonations. Although the sample density is relatively low, the planktic foraminiferal assemblages point to a nearly complete succession (except local erosional gaps), ranging from the *Pseudoguembelina palpebra*-Zone (Early Maastrichtian) to the Zone E14 (*G. semiinvoluta*-Zone, late Bartonian/early Priabonian). Nannofossil analyses show largely identical ages (Maastrichtian UC20 to late Bartonian/early Priabonian NP18), except for few cases with dominant reworked nannofossils. Sampled nummulitids indicate ages from Shallow Benthic Zone 11 (late Ypresian) to SBZ 18 (late Bartonian/early Priabonian). The combination of the investigated stratigraphically important fossil groups show time gaps ranging from nearly synchrony to about one planktic foraminiferal zone between the deposition of planktic foraminifera and calcareous nannofossils, and the benthic nummulitids. This points to differential transport or storage periods up to 1-2 My for the nummulitids on the shelf during the Eocene.