

Extinction rates of agglutinated foraminifera across the Cretaceous/Paleogene boundary at Contessa, Umbria-Marche Basin, Italy: The Scaling Problem

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The newly studied Paleocene samples from the Contessa section were compared with the Upper Cretaceous record of Cetean (2009) and Kaminski et al. (2011) to create a broader coverage of species distribution and abundance. Our biostratigraphical resolution is considered robust enough to resolve the extinction rate of DWAF bioevents by adopting a suitable data gathering method, consistent sample preparation and taxonomic investigation. A preliminary study of the first meter of the Paleocene (Hikmahtiar et al., 2022) recorded 55 taxa from 44 Paleocene samples. Calculation of the extinction rate therefore takes into account the Signor-Lipps Effect (Signor III, P. W. and Lipps, J. H., 1982). As far as we are aware, no other study of benthic foraminiferal has adopted such an approach to quantify mass extinction rates across the K/Pg boundary. A more accurate calculation of the extinction rate calculated based on high resolution sampling across the K/Pg boundary will yield new insight into the true nature of the extinction rates and the behavior in the trophic structure across the K/Pg boundary of the western Tethys.

References:

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