

In a paper published yesterday in this journal

Larsson, V. and Jung, S.: Persistent contamination in benthic-foraminifera-based Mg/Ca thermometry using standard cleaning methods, *Clim. Past*, 21, 1871–1894, <https://doi.org/10.5194/cp-21-1871-2025>, 2025.

Present a different calibration for *Uvigerina peregrina* than the one used here (their Fig. 12) and some contamination issues are discussed. Please add some thoughts, if and how their findings are relevant for your study here.

Recent work has highlighted the sensitivity of *U. peregrina* Mg/Ca to residual contamination under certain cleaning protocols (Larsson and Jung, 2025); however, the stringent data quality evaluation employed in this study (Section 2.4) and the absence of covariance between Mg/Ca and Fe/Ca or Mn/Ca in our dataset indicates that contamination does not significantly influence the Mg/Ca-derived temperatures presented here.

The alternative calibration for *U. peregrina* shown in Fig. 12 of Larsson and Jung (2025) is based on earlier work by Elderfield et al. (2006) which relied on a relatively small number of core-top samples spanning  $\sim$ 1.5–12 °C. In contrast, the calibration of Elderfield et al. (2010, 2012) used in this study incorporates independent constraints on glacial-interglacial temperature change across the LGM-Holocene, yielding a Mg/Ca–temperature sensitivity of  $\sim 0.1 \pm 0.013$  mmol mol<sup>-1</sup> °C.

Related discussion of the calibration choice and its applicability at low temperatures is provided in our response to Reviewer 2 (Equation 2).

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#### References cited here that do not appear in the manuscript:

Elderfield, H., Yu, J., Anand, P., Kiefer, T., and Nyland, B.: Calibrations for benthic foraminiferal Mg/Ca paleothermometry and the carbonate ion hypothesis, *Earth Planet. Sci. Lett.*, 250, 633–649, <https://doi.org/10.1016/j.epsl.2006.07.041>, 2006.

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