



Supplement of

Paleoproductivity and coccolith carbonate export in the northern Bay of Bengal during the late Pleistocene

Medhavi Srivastava et al.

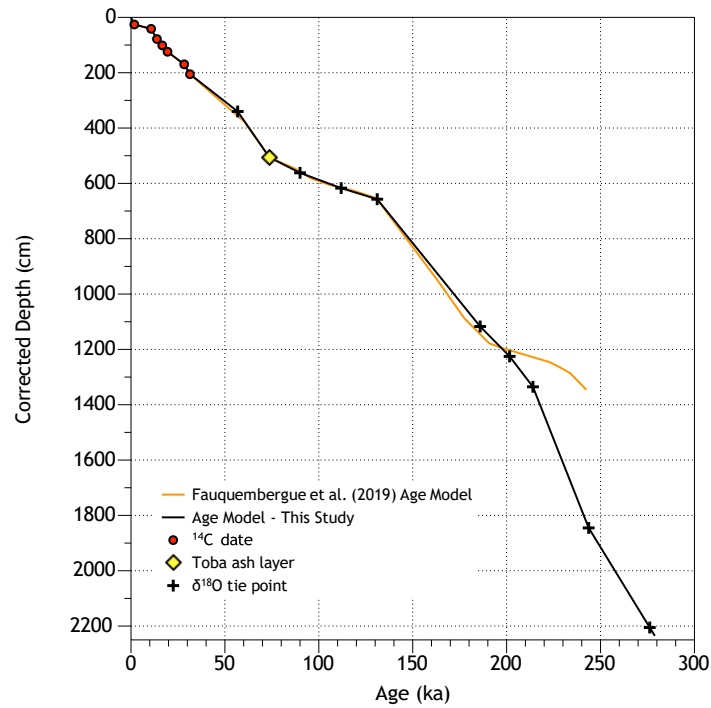
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Supplementary Material

Table S1: Tie-points used in the revised age model for core MD12-3412.

Corrected Depth (cm) MD12-3412	Age (ka)	Error (kyr)	Type	Reference
25.8	1.7760	0.085	Radiocarbon dating	Fauquembergue et al 2019
41.5	10.7380	0.15	Radiocarbon dating	Fauquembergue et al 2019
78.4	13.8235	0.1375	Radiocarbon dating	Fauquembergue et al 2019
101.4	16.6510	0.241	Radiocarbon dating	Fauquembergue et al 2019
124.3	19.4670	0.219	Radiocarbon dating	Fauquembergue et al 2019
169.7	28.3275	0.3345	Radiocarbon dating	Fauquembergue et al 2019
205.4	31.4205	0.3665	Radiocarbon dating	Fauquembergue et al 2019
340.142	56.8		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
506	73.7	0.3	Toba tuff Ar/Ar dating	Fauquembergue et al 2019; Mark et al 2017
561.855	90.0		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
617.185	111.9		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
657.212	131.1		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
1117.27	185.9		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
1225.3	201.6		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
1335.3	214.0		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
1845.3	243.7		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study
2205.3	276.2		<i>G. ruber</i> $\delta^{18}\text{O}$ tie point	This study



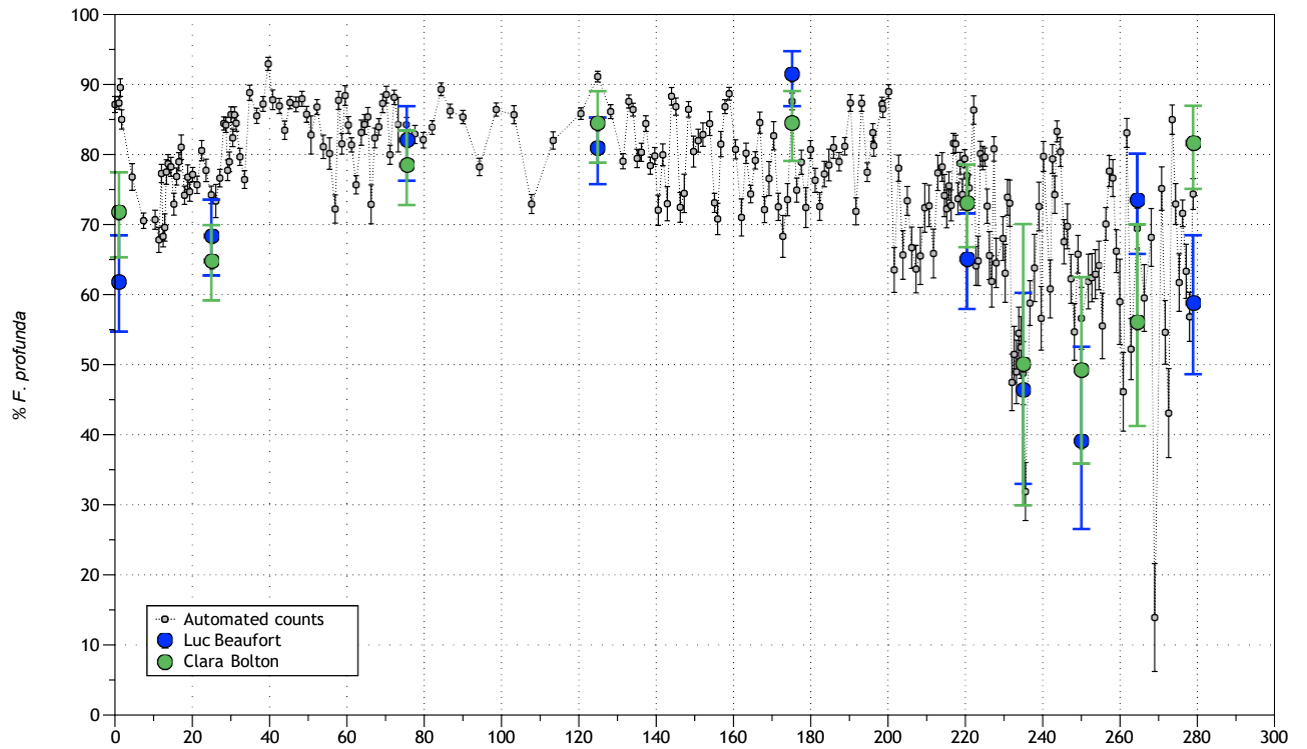


Figure S2: To confirm our results based on the automated system, we also carried out “traditional” manual counts to determine the relative abundance of *F. profunda* on a subset of 10 samples – five from the more diluted interval below 200 ka, and five from the 0-200 ka interval where coccolith concentrations are higher. For these ten samples, two experienced micropalaeontologists (Bolton, green dots; Beaufort, blue dots) independently carried out counts. Automated counts (as in the main text figures) are also shown in black. Error bars represent the 95% confidence intervals of relative abundances, calculated using the PAST5 software. Error bars are larger for manual counts than automated counts due to a smaller number of total coccolith counted (150 FOVs in the automated system versus 6 to 20, depending on coccolith abundance, for manual counts). Error bars are also larger for both counting methods in the diluted interval below 200 ka, because less coccoliths were counted. In addition, the difference in relative abundance between the two specialists for manual counts is larger in the diluted interval. These manual counts (1) validate the trends and relative abundance values in automated counts, and (2) demonstrate the advantages of using the automated system to reduce errors by counting more coccoliths in each sample.

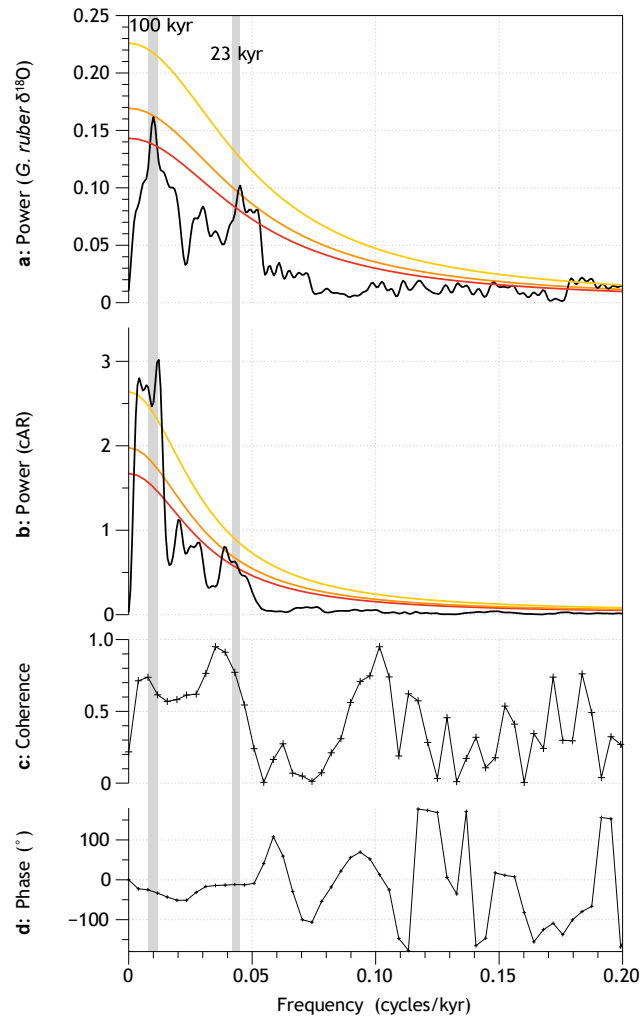


Figure S3. Phase and Coherence Analysis of *G. ruber* $\delta^{18}\text{O}$ (reference) with cAR (series), both from core MD12-3412. (a) MTM spectral analyses of cAR, (b) MTM spectral analyses of *G. ruber* $\delta^{18}\text{O}$, (c) coherence and d: phase between the two time-series. In the precession band, the two time-series are highly coherent and in-phase.