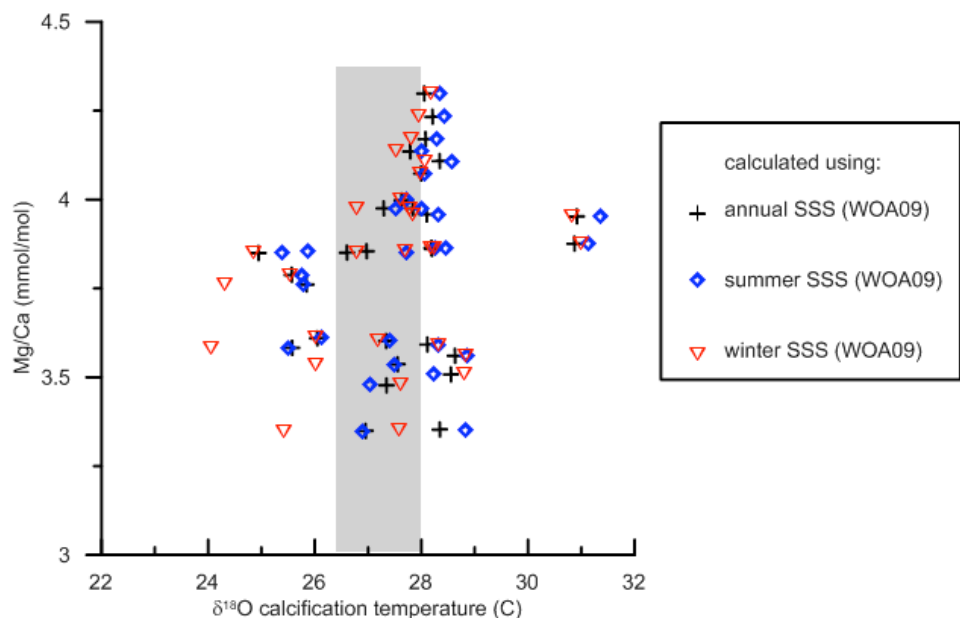


1 **Supplemental Materials**

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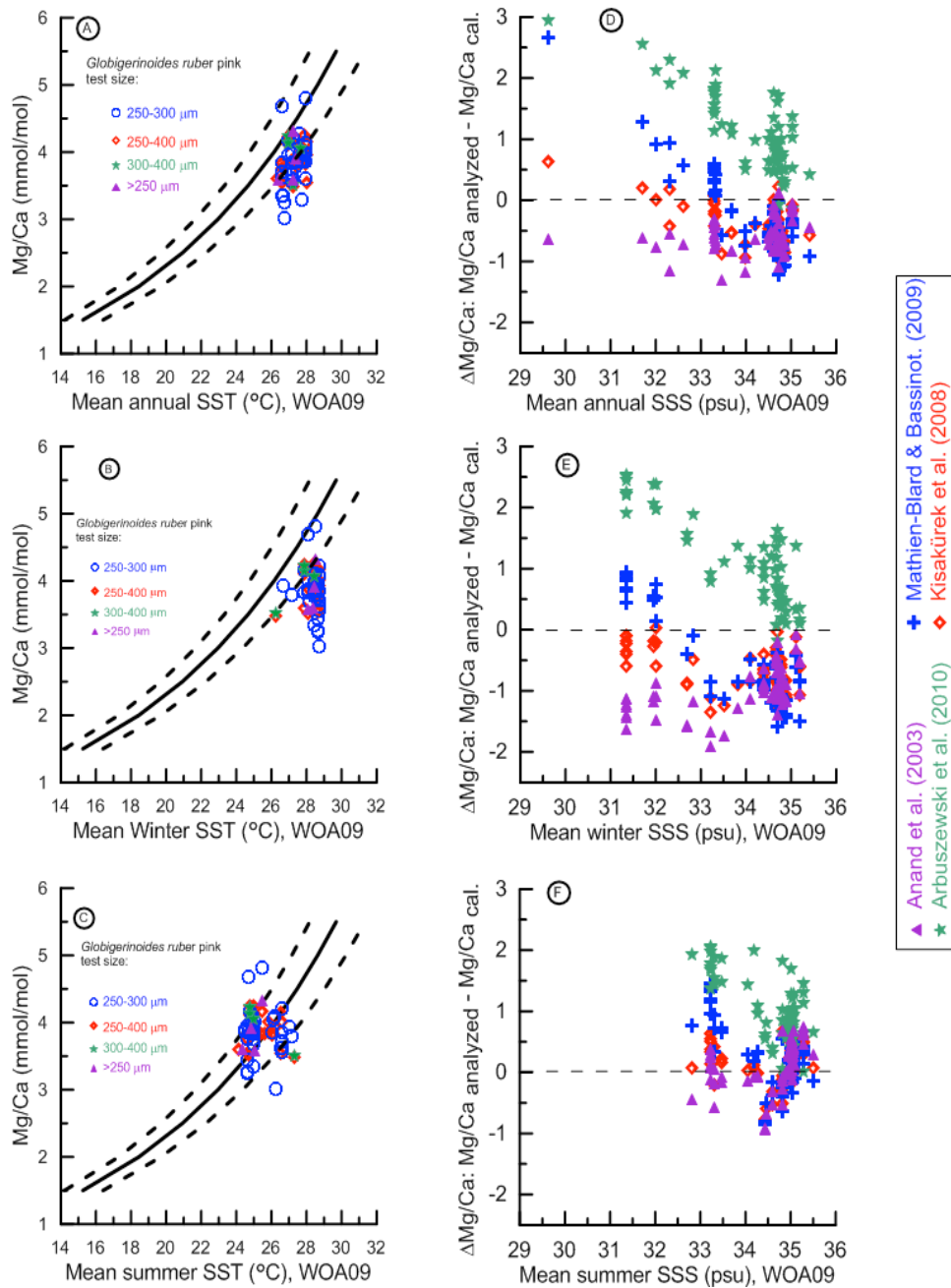
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5 Figure S1: Mg/Ca analyzed in test of *G. ruber* pink plotted versus calculated $\delta^{18}\text{O}$
6 calcification temperature. Different symbols indicate $\delta^{18}\text{O}$ calcification temperature
7 obtained using seasonal and annual SSS (see legend). Grey shaded area indicated the
8 spatial variation of mean annual SST over the core top sampling sites.

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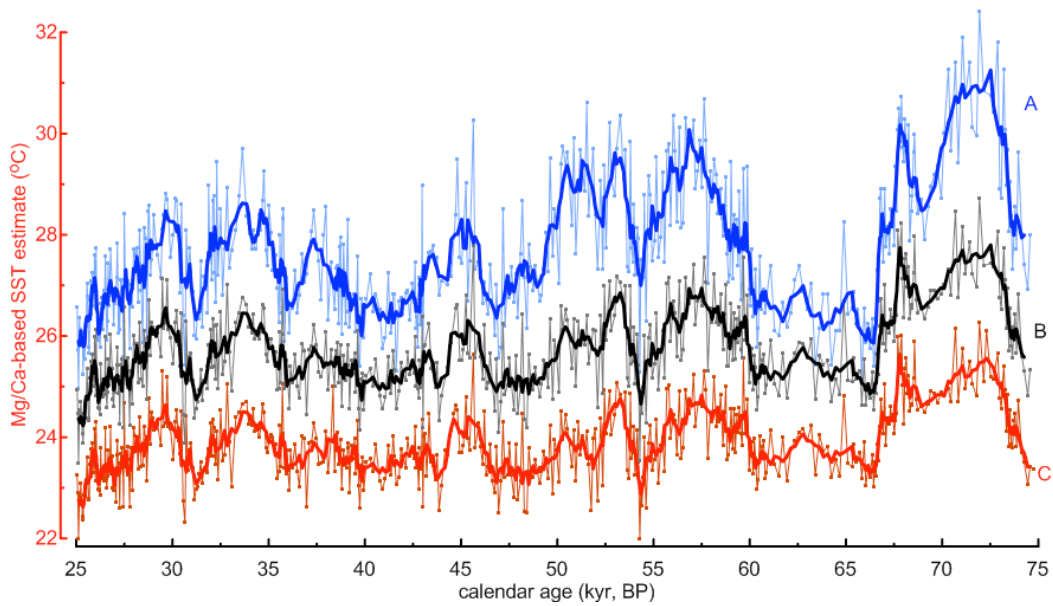
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Figure S2: Left column shows Mg/Ca analyzed in *G.ruber pink* plotted versus annual (A), winter (B), and summer (C) SST WOA09 temperatures. Right column shows Δ Mg/Ca (analyzed Mg/Ca minus calculated Mg/Ca) plotted versus annual (D), winter (E), and summer (F) SST WOA09 SSS.



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2 Figure S3: Mg/Ca-based SST estimates in MD03-2707 calculated using Mg/Ca-SST-SSS
 3 equation of Kisakürek et al (2008) (A: blues curve), Mg/Ca-SST-SSS equation established
 4 using Gulf of Guinea core top samples (B: black curve), and global Mg/Ca-SST calibration
 5 equation (C: red curve). Bold lines indicate a 5-point running average. The SSS that is used in
 6 the calculation of salinity effect in curves A and B is foraminiferal Ba/Ca-based runoff-
 7 induced SSS variation with uncertainty of ± 1.2 (Weldeab, 2012). Note that the large offset
 8 between three time series of SST estimates is related to the pre-exponential value of the
 9 calibration curves that varies from 0.06 (Kisakürek et al., 2008) to 0.38 (Anand et al.,
 10 2003; Dekens et al., 2002).

11