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Supplement of

Growth rate rather than temperature affects the B/Ca ratio in the calcareous red alga *Lithothamnion corallioides*

Giulia Piazza et al.

Correspondence to: Giulia Piazza (g.piazza15@campus.unimib.it)

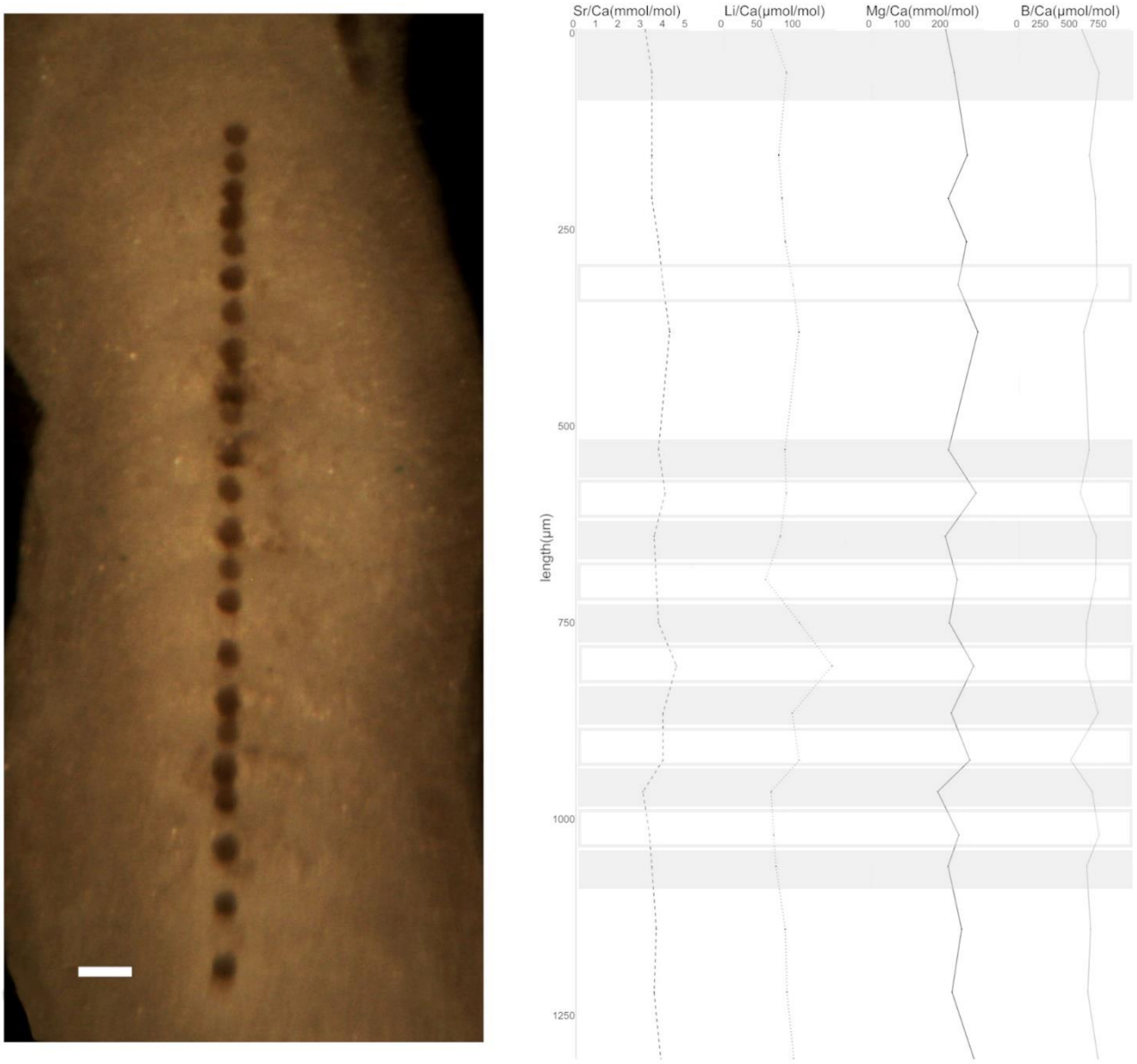

Figure S1: Longitudinal section through the *L. corallioides* branch sampled in Aegadian Isl. (scale bar = 100 µm), showing the LA-ICP-MS transect targeting each growth bands. Elemental variations along the length of the laser transect are also shown, highlighting those growth bands ascribed to short cells (dark bands) and long cells (light bands). Note that laser spots n. 3 and 9 in the longitudinal section have been deleted from the dataset because of errors during the analysis.

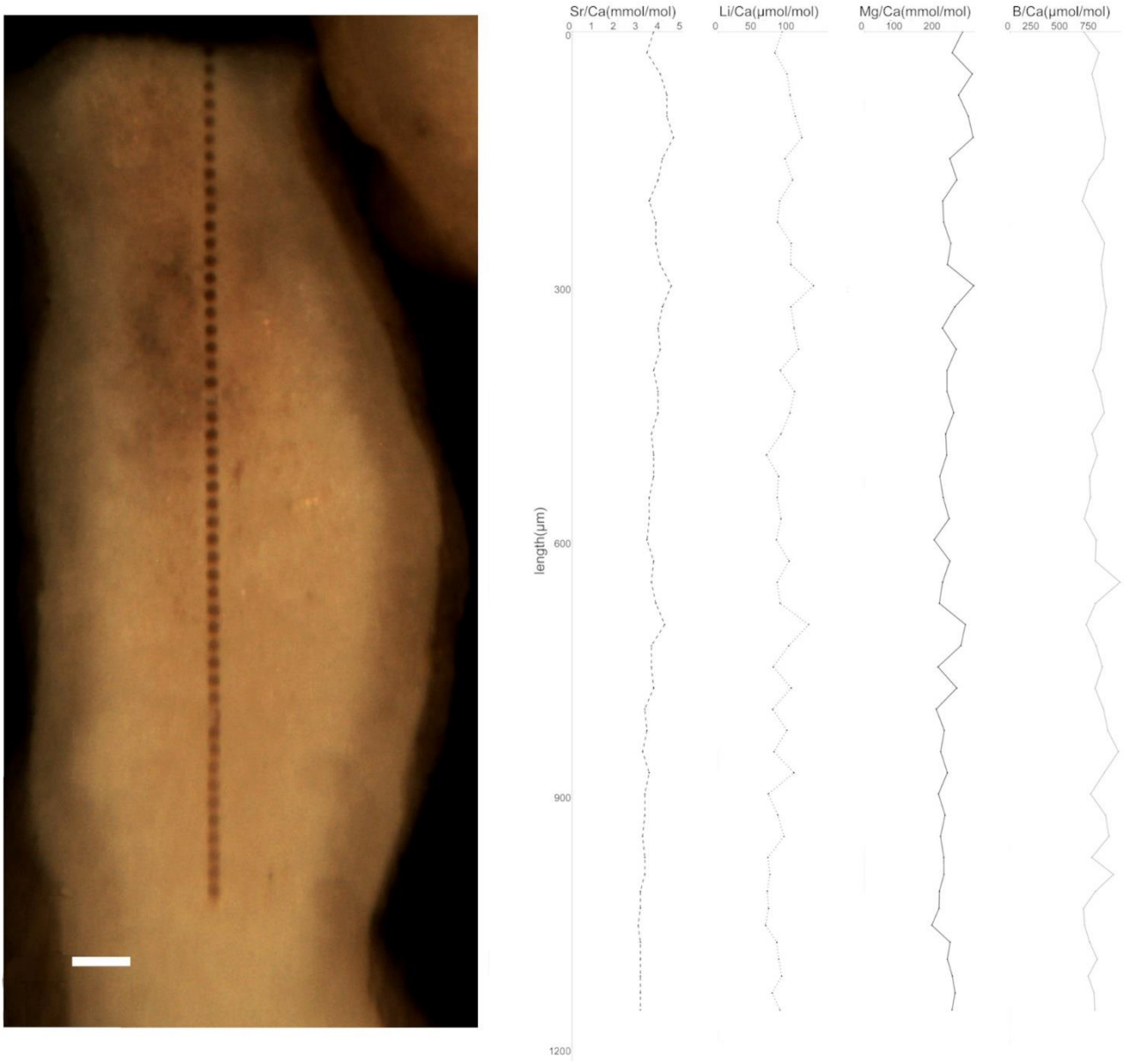

Figure S2: Longitudinal section through the *L. corallioides* branch sampled in Elba (scale bar = 350 µm), showing the LA-ICP-MS transect targeting each growth bands. Elemental variations along the length of the laser transect are also shown. In the Elba sample it was not possible to distinguish between short and long cells.

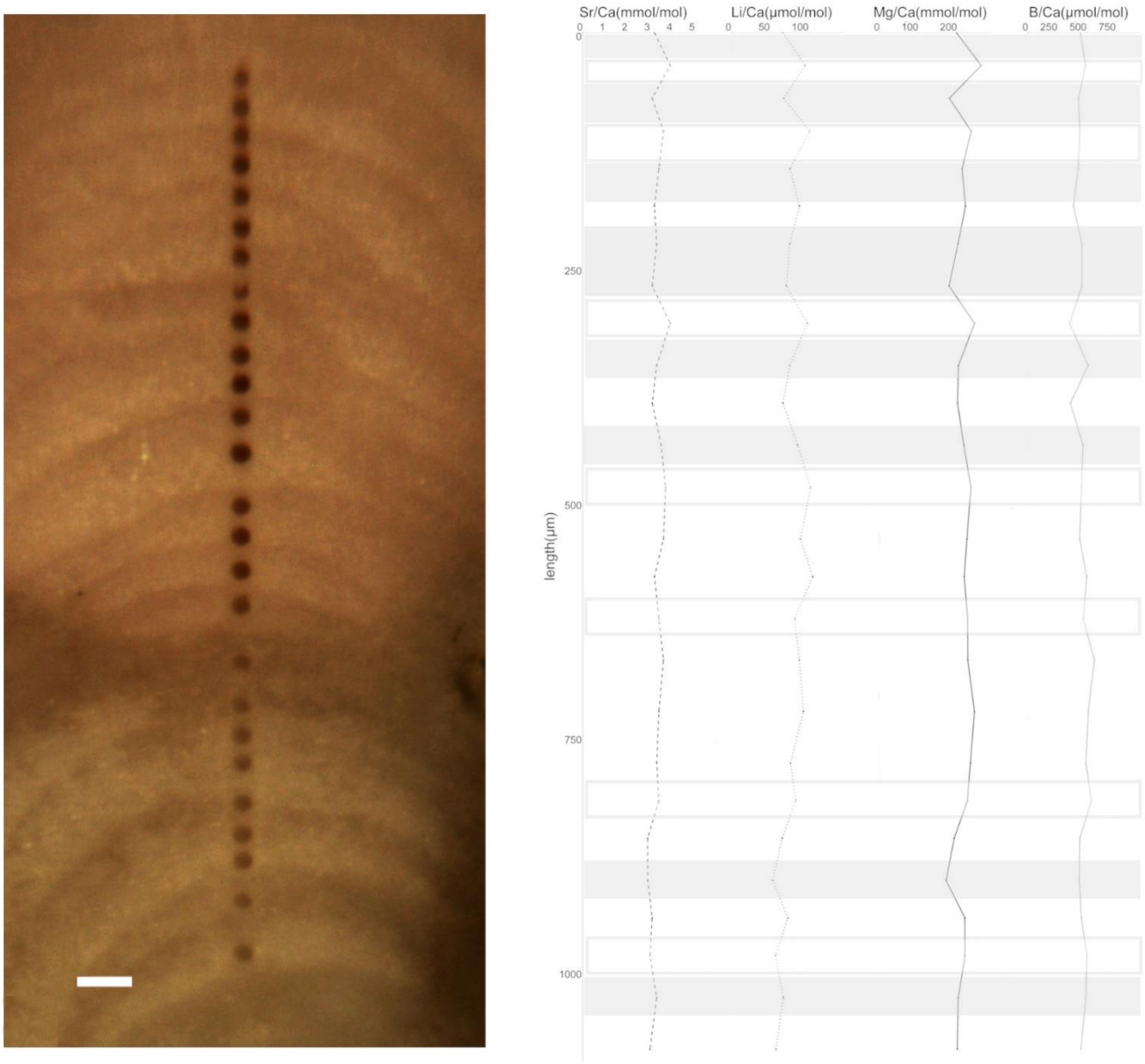

Figure S3: Longitudinal section through the *L. corallioides* branch sampled in Pontian Isl. (scale bar = 200 µm), showing the LA-ICP-MS transect targeting each growth bands. Elemental variations along the length of the laser transect are also shown, highlighting those growth bands ascribed to short cells (dark bands) and long cells (light bands).

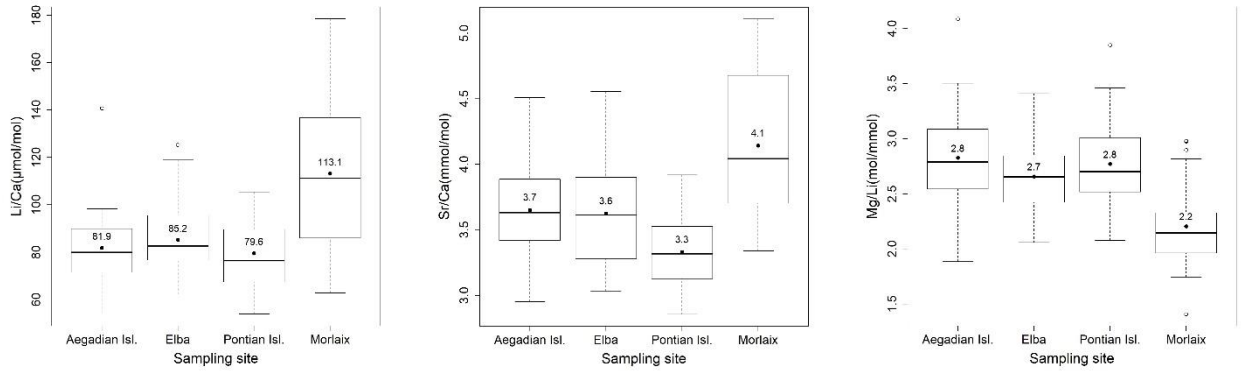

Figure S4: Box plots showing the results of Li/Ca, Sr/Ca and Mg/Li in *L. corallioides* collected in different sampling sites. The horizontal black lines indicate the median values. The black filled circles and the numbers inside the plot indicate the mean values.

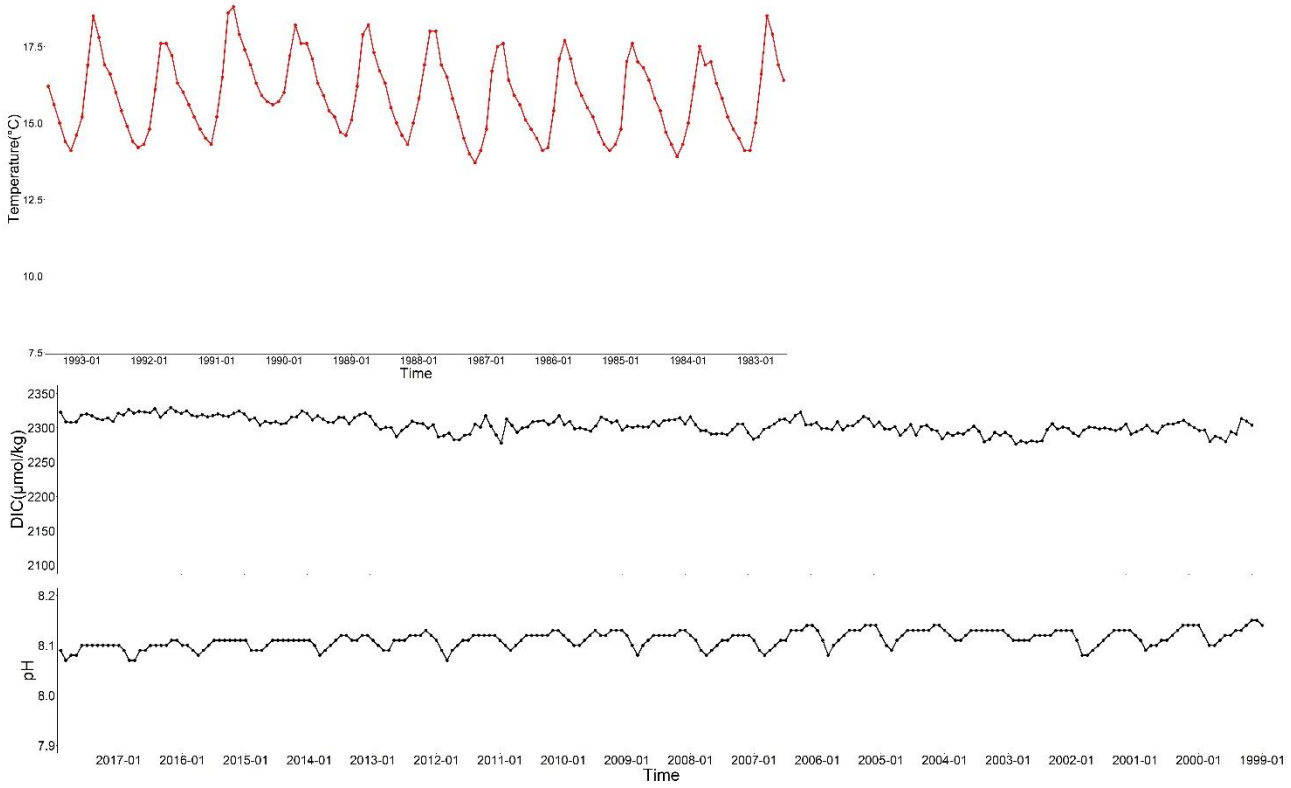

Figure S5: Temperature and carbon data in Aegadian Isl. at sampling depth (40 m). Temperature was extracted by 11 years of ORAS5 monthly mean reanalysis preceding the date of sample collection (August 1993). Dissolved inorganic carbon (DIC) and pH data were extracted by CMEMS biogeochemical models spanning 1999-2017.

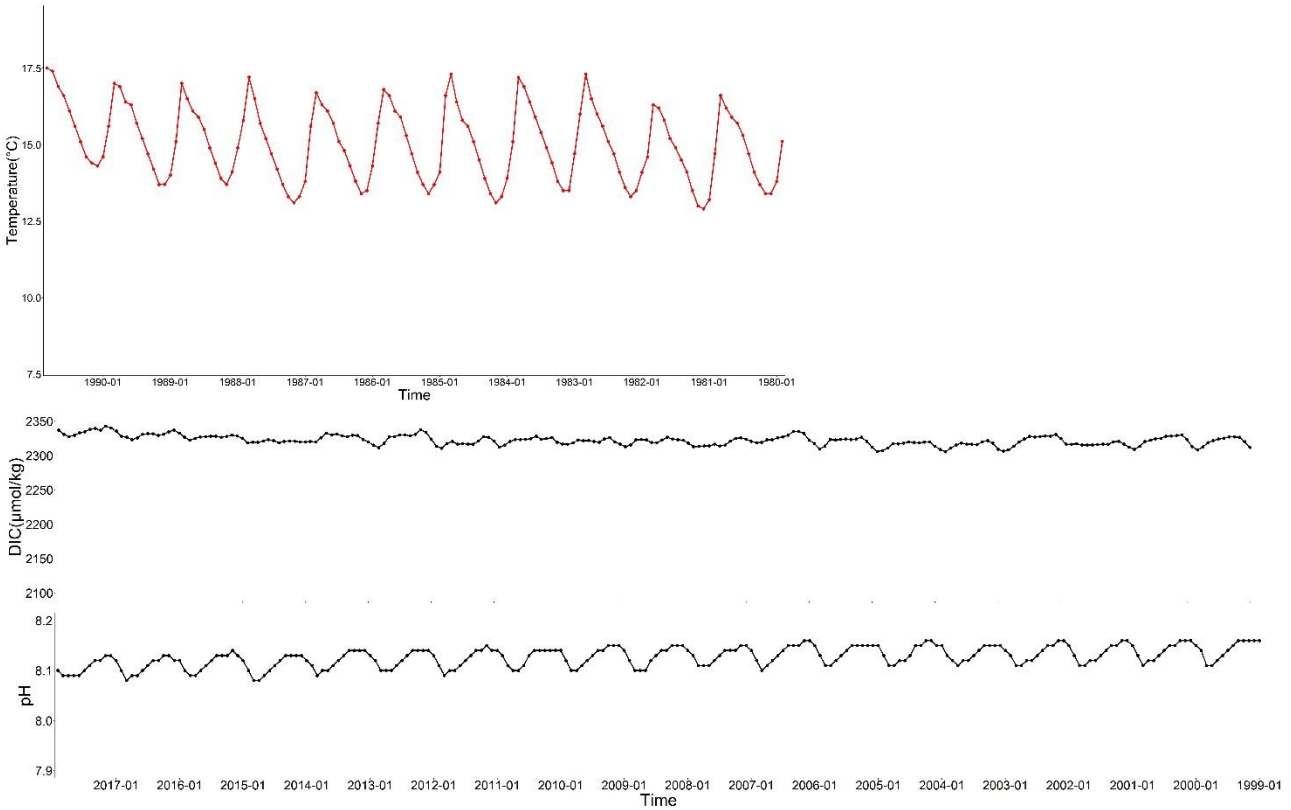

Figure S6: Temperature and carbon data in Elba at sampling depth (45 m). Temperature was extracted by 11 years of ORAS5 monthly mean reanalysis preceding the date of sample collection (December 1990). Dissolved inorganic carbon (DIC) and pH data were extracted by CMEMS biogeochemical models spanning 1999-2017.

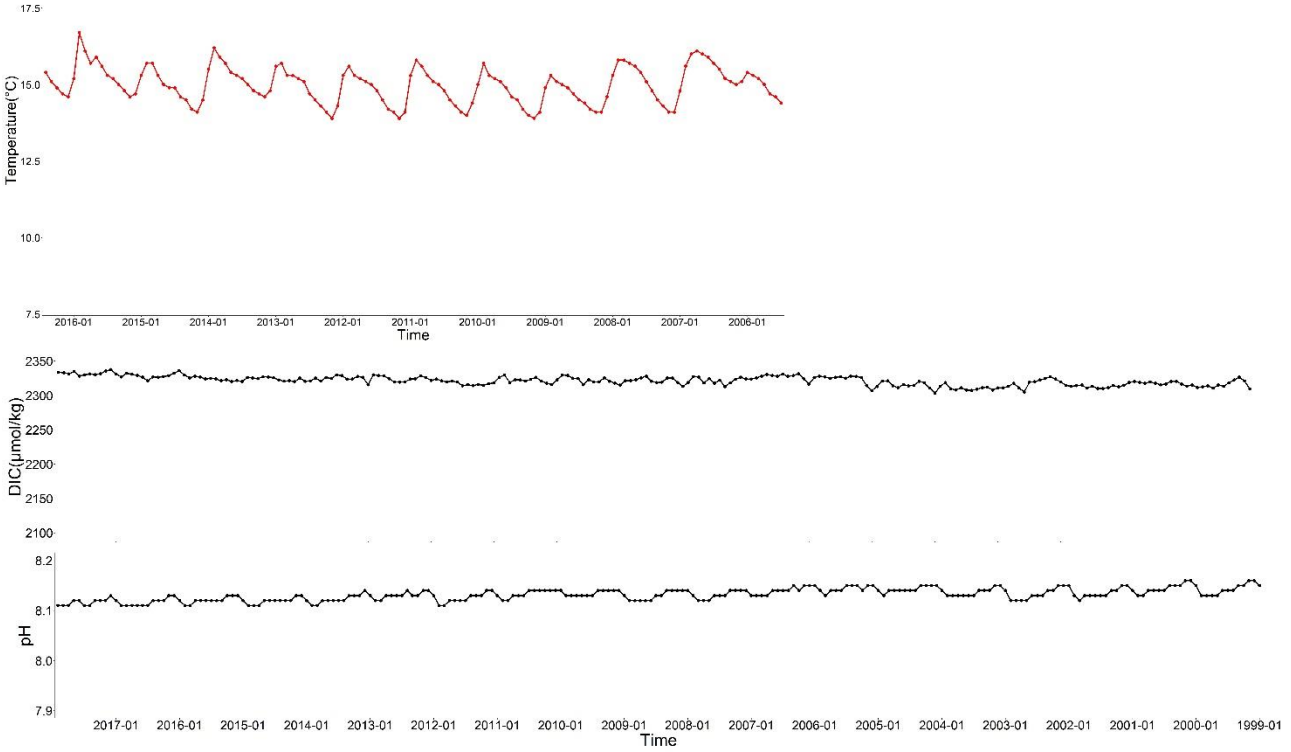

Figure S7: Temperature and carbon data in Pontian Isl. at sampling depth (66 m). Temperature was extracted by 11 years of ORAS5 monthly mean reanalysis preceding the date of sample collection (July 2016). Dissolved inorganic carbon (DIC) and pH data were extracted by CMEMS biogeochemical models spanning 1999-2017.

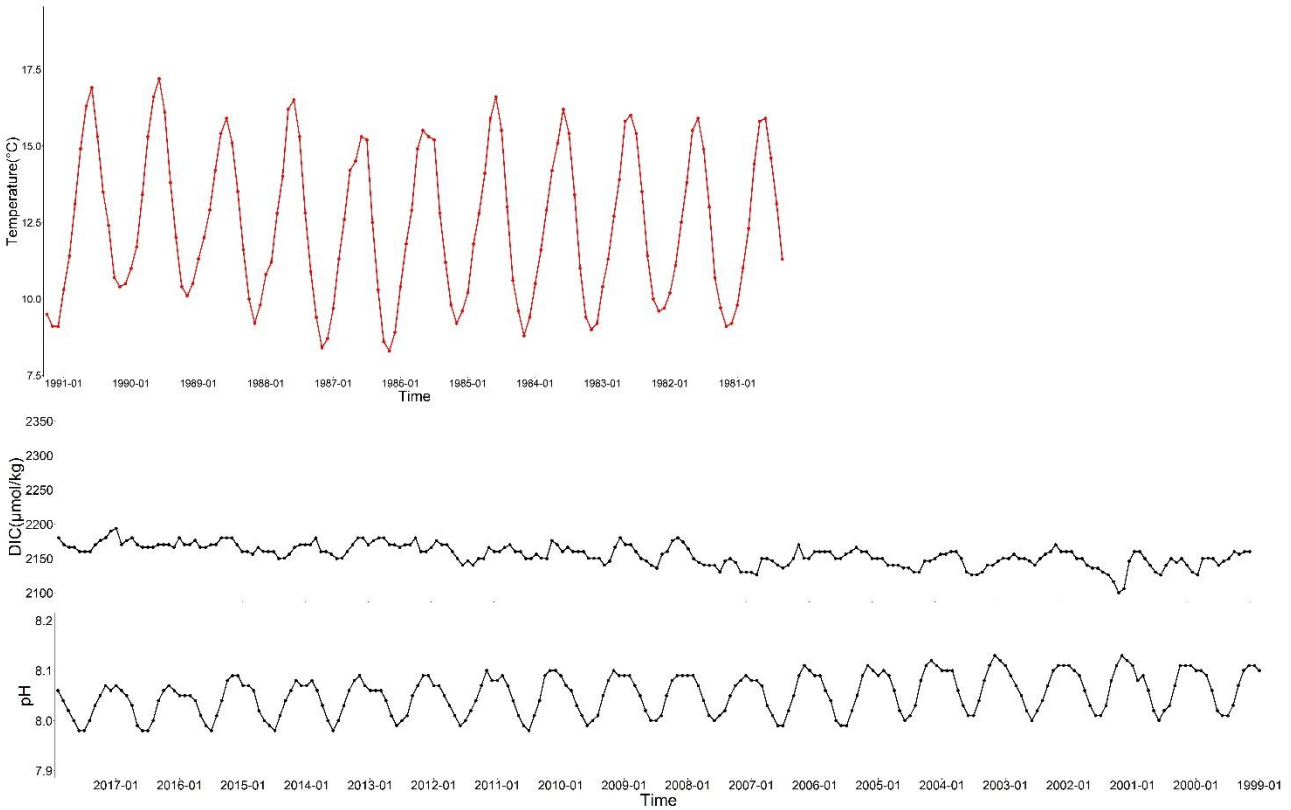

Figure S8: Temperature and carbon data in Morlaix at sampling depth (12 m). Temperature was extracted by 11 years of ORAS5 monthly mean reanalysis preceding the date of sample collection (May 1991). Dissolved inorganic carbon (DIC) and pH data were extracted by CMEMS biogeochemical models spanning 1999-2017.