Comment:

1. Please see the comment: Introduction - Rather than redoing a history on boron, from my point of view the introduction should have been oriented on the response of the SST and carbonate chemistry proxies according to the type of materials studied, calcite or aragonite, and finally yes the little knowledge concerning the bio-carbonates in Mg-Calcite

Response:

We modified the introduction about boron incorporation in marine carbonates, including only the relevant information for the aim of the study. Temperature proxies in Mg-calcites have a long and robust record in literature, and all the significant references on the subject have been included in the introduction (from line 31, and modified text from line 42 in the paper with track changes). We also included a brief statement about the importance of the mineralogical control over biological up-regulation, highlighting differences between aragonite and calcite (from line 82 of the revised text with track changes).

Comment:

2. Can we really use Mg-calcite organisms? Such questions have to be developed in the introduction

Response:

The value of Mg-calcites and especially coralline algae as recorders of past climate has been discussed since decades (Chave and Wheeler, 1965; Moberly, 1968), and evidences proved their suitability as paleoclimate archives. We further stressed their meaningfulness in the introduction (lines 42-46).

3. Discussion: Why do the authors never discuss the potential role of the organism in up-regulating the carbonate chemistry of their internal calcifying fluid (here CO32-) and consequently the growth parameters, here the linear extension... I am really not convinced by the discussion presented here and the fact that the authors ignore all the recent works on these geochemical processes.

Response:

We discussed about the up-regulation of the calcifying fluid (pH_{cf}) in corals and coralline algae at lines 82-82 and from line 386 of the revised text with track changes. We therefore cited recent works on pH_{cf} accordingly, which suggest a species-specific control over pH_{cf} at different ambient pH. Despite being an interesting topic, the elevation of pH at the site of calcification would not be determinant for the variations observed in our data. Indeed, we examined a single species, avoiding the problem of species-specific differences in up-regulations. Moreover, all samples have been collected in normal seawater pH, without significant variations among sampling sites. Therefore, we would not expect differences in up-regulations that could control the measured B/Ca or the growth rates. We also revised some points in the text throughout, for clarity.

References

Chave, K.E., and Wheeler, B.D., Jr., 1965, Mineralogic changes during growth in the red alga

Clathromorphum compactum: Science, v. 147, p. 621, doi: 10.1126/science.147.3658.621.

Moberly, R., Jr., 1968, Composition of magnesian calcites of algae and pelecypods by electron

microprobe analysis: Sedimentology, v. 11, p. 61–82, doi: 10.1111/j.1365–3091.1968.tb00841.x.