

Interactive comment on “Effect of Ocean acidification on growth, calcification and recruitment of calcifying and non-calcifying epibionts of brown algae” by V. Saderne and M. Wahl

Anonymous Referee #1

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General comments This ms provided some growth rate data of several species under 3 levels of pCO₂, try to elucidate the effects of OA on growth of calcifying and non-calcified organisms, and then the competition between them in the future ocean. But this ms lacks of clear hypothesis why effects of OA on growth rate are important? since only growth rate data presented here. There are also some weaknesses in the measurement of growth rate (see specific comments).

Specific comments Title: The title should accurately address what the author want to present in this manuscript, I did not found any calcification data in this ms except for

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an illustrative image (Fig 1), which is not strong enough to convince reader that shell was corroded under high CO₂/low pH. And what is the accuracy of epifluorescence microscope to detect calcification differences among CO₂ treatments?

Abstract: line 1-12 Too much background presented here, should be shorten.

P3741 line 2 H₂O rather than CO₂ is the substrate of gaseous oxygen in photosynthesis.

P3741-3742 the authors should address more about coastal ocean acidification, since which not only driven by increase of pCO₂, but also by discharge of rivers, upwelling, ground water, eutrophication etc, there factors leading to more fluctuated pH in the coastal zone.

P3744 line 25-end of this paragraph, explain why only took samples at the beginning and end of experiments for growth rates, while not took samples at a certain time interval (e.g. every 5 days) to get a growth curve, the later will give you a better estimate of growth rate.

P3746 line 15-18 Again, why only took samples at the beginning and end of incubation for growth rate? That may miss the exponential phase of growing and then over/under estimate growth rate, and also is the possible reason why the SD is large in all figs.

Discussion: Though this ms provided growth rates data for both calcifying and non-calcifying organisms, but there lacks of linkage between them, the author should think about how to integrate these data to address one major topic, rather than discuss one species after another. For the discussion of calcification (4.2), I suggest to delete this paragraph unless the author can provide quantitative data on calcification.

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