Biogeosciences Discussions

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Reply on RC2

Martin Vohník

Author comment on "Bioerosion and fungal colonization of the invasive foraminiferan *Amphistegina lobifera* in a Mediterranean seagrass meadow" by Martin Vohník, Biogeosciences Discuss., https://doi.org/10.5194/bg-2020-452-AC2, 2021

(the original R2 text marked with asterisks)

*A very interesting contribution on the taphonomy of a dead assemblage of Amphisteginids next to Malta Island.

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*There is a very promising and result rich study on diversity and presence / abundance of fungal activity recorded on both *the rhizosphere and the benthic community.

Authors Response (AR): thank you – I indeed had a feeling that the available literature on foram vs. fungi interactions is very scarce.

*I was surprised that quite a deal of emphasis was given on possible substrate reduction by the activity of bioeroders / *dissolution effects and not a word is spent on possible transportation effects.

AR: here the emphasis was on the effect of biological processes (colonization/bioerosion) and their possible consequences so I guess it does make sense that both Introduction and Discussion focus on these issues (papers studying effects of transport typically do not spend many words on, e.g., bioerosion or colonization by fungi). In fact, I also had factored in abiotic processes like dissolution/mechanical damage (the latter probably closely connected with transport), but they seemed to play only a minor role. On the other hand, it is true that some literature on transport should have been mentioned – it will be done in the revised version of this ms (in the paragraph around the lines 55-59 in the original manuscript, as you pointed out in the supplement to your review)

*At 6 meters water depth hydrodynamics can be massive and Posidonia meadows can act as shields for all those particles *that are transported within the meadow to get trapped and accumulated.

AR: definitely true, that´s the reason I included a paragraph mentioning this issue in Discussion (lines 251-255 in the original manuscript – I guess it belongs there rather than to Introduction because I did not investigate this process, it is a suggestion for future studies for anyone interested).

A dense Amphistegina made substrate of severals tens of cm thick (less than 60 is specified, but I did not see a specific number) can be the result of accumulation by mass transport.

AR: definitely agreed – but once again, I did not study these processes nor am I familiar with them for the study area so I can say very little. No specific number was provided for the thickness as it had not been rigorously measured but some rough estimation was/is provided in the lines 120-121 of the original manuscript.

*very minor details, got me the feeling that the author is not an expert on larger foraminifera, the word foraminiferan is *often used insted of the classic foraminifera, Bengal Rose is used to check for living specimens when in larger forams the *best method is by looking at the very distinctive symbiont colouration after few hours of rest after sampling.

AR: Indeed I am a novice in this very interesting field – just based on literature searches it seemed to me that both terms are used with very similar frequency, foraminiferan being a younger common/trivial name while foraminifera older/classic. I decided for the former (in fact I mostly use just "foram/-s") mainly because in the latter case, some authors use Foraminifera (which is a taxonomic unit) while others foraminifera (which I consider a common name), a situation confusing for me.

Thank you for suggesting an alternative method for distinguishing the living foram specimens, will compare it with Bengal Rose next time! (since most of the substrate specimens were scored as dead I think the possible differences would be minimal in the case of this study)

*I should not judge the grammar and the syntax as I am not a native speaker but, in my opinion, the text is written is a very *good english, clear and sound. Structure of the MS is

appropriate and the references are lacking all those regarding *transport, that, to my opinion, is a critical issue here.

AR: I will certainly factor in some references regarding transport at appropriate places (also as suggested in the supplement of your review) in a revised version of this ms.

*A number of markups are directly on the attached PDF

AR: thank you!

regards

Antonino Briguglio

Please also note the supplement to this comment:

https://bg.copernicus.org/preprints/bg-2020-452/bg-2020-452-RC2-supplement.pdf

AR: thank you for your time and the fitting comments/suggestions! Martin Vohník