

Dear associate editor, thank you for your helpful comments and corrections. Please find below how we considered all your comments and corrections. The added parts are **highlighted in green**, while the removed parts are ~~written in green and crossed-out~~. Please note that most of the corrections were implemented directly on the manuscript.

1. L46. **Editor**: “I won’t notice it further, please change it elsewhere in case you agree”.

Author’s response: According to your comment, we changed “R” to “CR” in the entire manuscript.

2. L59. **Editor**: “Please detail (in which way)?”.

Author’s response: According to your comment, we added precision to the sentence: “and ~~affect~~ **decrease the abundance of** protozooplankton (Courboulès *et al.* 2023).”

3. L70. **Editor**: “Too vague, please detail”.

Author’s response: According to your comment, we added precision to the sentence: “~~Several~~ **Six** mesocosms were used with...”

4. L87. **Editor**: “what does that mean? Needs to be much clearer”.

Author’s response: According to your comment, we added precision to the sentence: “The duration of the experiment was set ~~as to~~ **to** 18 days ~~to be able in order~~ **in order** to monitor the responses of plankton at medium-term (multiple days to weeks), as interesting dynamics were already reported in control treatments during ~~other~~ **previous** experiments in ~~the~~ **the** Thau Lagoon up to almost 3 weeks after the start of the experiment (Courboulès *et al.* 2021, Soulié *et al.* 2022a), ~~while coping with COVID-19 pandemics restrictions.~~ **However, the duration of the experiment was limited by COVID-19 pandemics restrictions, preventing from conducting a longer experiment.”**

5. L87. **Editor**: “seems to be a rotor pump, do you have any references showing that it does not significantly disrupt communities (especially large phytoplankton cells and mesozooplankton)”.

Author’s response: We did not find any reference specifically showing that the type of pump that we have used does not damage organisms. However, we did not observe any damage on the organisms when counting them and identifying them on the microscope, even for the more fragile organisms, such as ciliates. We therefore added this information in the manuscript.

“In each mesocosm, the water column was continuously homogenized with a pump (Rule, Model 360) immersed at a depth of 1 m, resulting in a turn-over rate of approximately 3.5 d⁻¹. **Observations performed with a microscope**

indicated that organisms (phytoplankton, zooplankton) did not seem to be damaged by the mixing procedure, even fragile organisms such as ciliates.”

6. L135. **Editor:** “underwater where??? This is not clear. Perhaps in plastic tanks filled with water?”.

Author’s response: Yes, bottles were kept in an opaque water-filled plastic tank. According to your comment, we added this information to the manuscript.

“After at least 6 h of fixation during which bottles were kept underwater and in the dark in opaque plastic tanks filled with freshwater at room temperature, the DO concentration in each bottle was measured with an automated Winkler titrator (Methrom Metrohm 916-Ti-Touch) using a potentiometric titration method”

7. L168. **Editor:** “CRM from Dickson are NOT made for Ph reference”.

Author’s response: We agree with your comment. The Dickson references were only used for TA analysis. Considering pH analysis, an afterward comparison with purified m-Cp was performed to make sure that no potential drift happens. We added this information in the manuscript. Please note that upon this revision, a reference was added to the reference list.

“Certified reference seawater for carbonate chemistry (provided by Prof A. G. Dickson, Scripps, California) was used for TA analysis and to check the stability of pH analysis during the experiment pH and TA analysis. After the experiment, the m-Cp used was checked against a purified m-Cp batch (Lu *et al.* 2011), showing a difference < 0.005 pH units.”

8. L267. **Editor:** “Is it correct, error bars are showing minimal and maximal values? Just to make sure as this would be the correct approach when having less than 3 replicates”.

Author’s response: Yes, error bars are showing minimal and maximal values. We added this information in the figure captions.

“Error bars represent the range of the observations (min and max values).”

9. L371. **Editor:** “No mixing of water in this experiment? If so, worth mentioning it.”

Author’s response: We agree with your comment and added this information in the sentence.

“Nevertheless, the sinking of the added soil during the experiment performed by Deininger *et al.* (2016), despite the use of a mixing pump to limit sedimentation, might have rapidly lessen light attenuation, possibly releasing phytoplankton from the negative effect of light limitation.”