

Major Comments

This manuscript analyzed more than 80 dilution experiments carried out in many Mediterranean sites at the surface and in the meso-bathypelagic layers. At least to me, I think all chapters need a throughout revision. Because the authors can estimate grazing and growth rates of pico- and nanoplankton by using dilution method, I did not find any results or discussion about growth rates. Furthermore, the authors must be showed the production rates of pico- and nanoplankton in C-budget (Fig. 9). I would appreciate if authors invest a bit more work in a clear and attractive presentation of their results. E.g. Fig. 9 is of interest but with the current design not very convincing. To me, I think this paper has not been well characterized as of yet, so I strongly encourage the authors to reanalyze their data and make the appropriate modifications to the manuscript. This manuscript needs to be addressed and the results and discussion rewritten to focus on the new analysis. With the above points in mind, at present, I cannot recommend its publication in Biogeosciences.

Specific Comments

P.4366, Abstract: You did not describe the important results and findings in the abstract. You showed this study analyzed with dilution experiments at the surface and meso-bathypelagic layers, I cannot find the important results about these depths, Please reword this paragraph in the Abstract.

p.4367, please delete the first paragraph (lines 2-6). I think it's not necessary to describe the "class food web".

Furthermore, to me, I think this paper in "Introduction section" has not been well characterized as of yet, there were too many paragraphs (14 paragraphs) in this section. Please reword these paragraphs (reduce to 3-4 paragraphs) in the Introduction.

Most important to me, what is good hypothesis in your study?

Methods:

p. 4371, Line 8. (-0.5 m). Rephrase: (0.5 m depth).

p.4372, line 26., mean concentration of the prey..... Rephrase:, mean concentration of the prey (Cm).....

In the method section, the authors can estimate growth rates of bacteria.....using dilution experiment (MZP) and dilution experiment (HNF), however, authors did not clear show the detail about how to estimate the growth rates of bacteria in which dilution experiments?

Results

p.4374-4375, First paragraph in Results. What is the seasonal range of Chl *a* and Primary production in the surface waters? To me, I did not agree the author's analysis, showed the values of Chl *a* concentrations divided into 3 trophic conditions. Such as, I always think that the value of $61.93 \mu\text{g C L}^{-1}$ can be considered eutrophic, not mesotrophic. It is unfair to say that.

Furthermore, there are different factors controls on the Chl *a* values in surface and meso-bathypelagic layers. Is a spatial or seasonal distribution of Chl *a* in Fig. 2? Ambiguity of data presentation and interpretations also make readers confusing.

p.4375, line17. Considering only prey's biomass,.....Considering prey's biomass for which size of grazers???

p.4375, line28. In oligotrophic conditions NP and HP manly supported MZP.....Rephrase:...In oligotrophic conditions NP and HP “mainly” supported.... Furthermore, if effects of “trophic cascades” in MZP dilution grazing experiments were there the ingestion rates was under- or overestimated in this study?

p.4376, line11. What is “grazing efficiency”? The authors did not show the detail about “grazing efficiency” in the Methods section.

In addition, what is unit of “grazing efficiency” in Fig. 3? Is $\mu\text{g C L}^{-1} \text{d}^{-1}/\mu\text{g C L}^{-1}$ for the unit of “grazing efficiency” in your study?? To me, it is better to show the ratio of grazing rates to growth rates.

Could you shorten your results, it is too long to read clearly. I think this paper has not been well characterized as of yet, so I strongly encourage the authors to reanalyze their data and make the appropriate modifications to the manuscript. The paper should be about 50% of its current length in the RESULTS part.

Furthermore, I must to say the results and discussion rewritten to focus on the new analysis, again.