

## ***Interactive comment on “Production, partitioning and stoichiometry of organic matter under variable nutrient supply during mesocosm experiments in the tropical Pacific and Atlantic Ocean” by J. M. S. Franz et al.***

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We thank Anonymous Referee#1 for his valuable comment. It is correct that the POM pool consists, besides phytoplankton, also of zooplankton and detritus. Mesozooplankton (mainly copepods) was either excluded via mesh-screening of the initial medium during filling of the mesocosms, or single copepods were removed from the GF/F filters by hand, which will be mentioned in more detail in the revised manuscript. Based on these procedures, we assume that POM collected on filters in our experiments did not contain mesozooplankton. Microzooplankton (mainly ciliates) was part of the POM, but

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its contribution to the carbon pool was small compared to autotrophic phytoplankton as indicated by volume to carbon conversion of microscopic counts. We will add some meaningful data for that to the revised manuscript. Organic detritus was included in filtered POM as well. However, comparison of the total photoautotrophic biomass estimated from flow cytometry (living cells) with the POC concentration from the filters (living cells + organic detritus) indicated that detritus contributed only marginally to the total particulate carbon pool. As correctly mentioned by the referee, pools of DON and DOP can be influenced by phytoplankton and by heterotrophic bacteria. The suggested term “microbial biomass” appears therefore as an appropriate compromise to include both of these groups and will be used in the revised manuscript. Furthermore, information on the contribution of bacteria to the organic carbon pool during the three mesocosm experiments will be added.

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