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Reply on RC3

Yuanyuan Zhang et al.

Author comment on "Methane accumulation affected by particulate organic carbon in upper Yangtze deep valley cascade reservoirs, China" by Yuanyuan Zhang et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-234-AC3, 2021

We feel sorry for the misunderstanding and inaccurate response about this question and thank the Referee #2 for pointing out this mistake.

At first, autochthonous organic matter was derived from aquatic production. Our research site, i.e., the Xiangjiaba Reservoir, is a deep-valley large reservoir located in the upper Yangtze River, China. Unlike streams, creeks or some other shallow lakes where dominant primary producers are periphyton communities (Piggott et al., 2015; Trochine et al., 2017), phytoplankton communities contributed almost all the primary productivity and autochthonous organic matter in water column in large water bodies, such as the Xiangjiaba Reservoir. Even there would be periphyton communities who contributed partial autochthonous organic matter in the reservoir, we believed that the relative abundance of periphyton-derived organic matter was negligible because of such large water bodies.

In our sampling campaign, as indicated in the manuscript, water samples were collected at the main channel of the reservoir. The phytoplankton and zooplankton communities were collected in water by phytoplankton net (diameter of mesh pore 64 μm) and sorted under microscope to represent the endmember of the autochthonous particulate organic matter. This approach was also discussed in some of the previous studies (Grasset et al., 2018; Chen et al., 2018; Tittel et al., 2019; Bueno et al., 2020).

Here, we would like to withdraw our previous mistake, and keep the term “plankton” in the manuscript. If there will be any questions, please don’t hesitate to contact us at lizhe@cigit.ac.cn.

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