

Interactive comment on “Chlorophyll *a* specific $\Delta^{14}\text{C}$, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values in stream periphyton: implications for aquatic food web studies” by N. F. Ishikawa et al.

Anonymous Referee #2

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The manuscript by Ishikawa et al. showed that chlorophyll *a* compound-specific $\Delta^{14}\text{C}$, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values in stream periphyton. The data and implications are novel and may be useful for future stream food-web studies. The manuscript was well written and the results are clear, but I have a few concerns on the manuscript.

- 1) P11065L21 It is unclear why you used the both chlorophyll *a* and phaeophytin *a*. If you used the both you should explain the reasons.
- 2) The mechanisms to explain the differences in $\Delta^{14}\text{C}$ between bulk and chlorophyll-*a* specific in litters were unclear. I am interested in the data because I guessed the $\Delta^{14}\text{C}$ of bulk would take lower values than that of chl-*a*. So, I recommend you to discuss more

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about the phenomenon.

- 3) I understood some of implications of this study in the last paragraph. But in the most of the periphyton samples, the isotope values of the bulk and chl-*a* specific are very close. I think from this study, we should not consider the chl-*a* specific isotopes in the most cases. You should emphasize which situation the chl-*a* specific isotopes are useful to analyze stream food web, e.g., habitats and algal compositions.

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