

Peer Review

Review of: "Predicting the Effects of Coevolution on Rubisco: A Study on Carbon Dioxide Fixation by Bryophytes"

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First, I should say that I am not an expert in protein structure analysis or the impacts of enzyme structure on enzyme function. My expertise is in photosynthesis. However, it was not clear to me from this report whether similar analyses have been done with higher plants, or what was revealed by such studies. I am no expert, but the conclusions that were able to be deduced from this structural analysis seemed impressive. If similar analyses have been done for higher plants, they should be cited and compared with these results.

I remain unclear why the binding of RuBisco to this particular compound is indicative of its ability to fix carbon dioxide effectively in the face of climate change. Perhaps this could be more thoroughly explained. I do not accept the proposed large importance of the response of these types of organisms to the biotic response of the earth as a whole, although they are functionally very important in some types of ecosystems.

My main reservation with the paper is the inaccuracy of the language. Language editing throughout seems necessary to me. The first sentence is nonsensical to me. Other examples: “resistance to 2-CABP”, “incorporating alternative substrates increases photosynthesis”, “tolerance against 2-CABP ultimately affecting carbon fixation by activating photorespiration” – I have no idea what was meant by these. The first sentence of the conclusion is much too general to be correct.

Declarations

Potential competing interests: No potential competing interests to declare.