

March 21, 2025

Luka Seamus Wright  
Oceans Institute  
University of Western Australia  
Perth WA 6009  
Australia  
☎ +61 8 6488 8760  
✉ [luka.wright@research.uwa.edu.au](mailto:luka.wright@research.uwa.edu.au)

Dear editor,

I wish to submit a manuscript titled *Only macroalgal detritus can remain viable for months* for consideration as a Research in Context article in the upcoming *Annals of Botany* special issue *Plant Senescence*. I confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

In this paper, I present the first data on seagrass detrital photosynthesis and then perform the first meta-analysis on the subject. My findings indicate that macroalgae are unique among plants in exhibiting detrital photosynthesis. This suggests that we may have misunderstood seaweed senescence and decomposition by attempting to study it in a similar manner to that of other plants, and calls into question many assumptions currently made around the topic of blue carbon. I believe this paper is relevant to your special issue as it deals with plant senescence in the broadest sense, both thematically and taxonomically.

All data and code are available in my open-access repository at [github.com/lukaseamus/seagrass-detrital-photosynthesis](https://github.com/lukaseamus/seagrass-detrital-photosynthesis) and I encourage you to pass these on to the reviewers. Data collated for the meta-analysis are additionally deposited at [github.com/lukaseamus/detrital-photosynthesis](https://github.com/lukaseamus/detrital-photosynthesis) which is linked to a Zenodo data publication.

Sincerely,  
Luka Seamus Wright