Biogeosciences Discussions

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Reply on RC1

Michael Staudt et al.

Author comment on "Growth and actual leaf temperature modulate CO_2 responsiveness of monoterpene emissions from holm oak in opposite ways" by Michael Staudt et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2022-142-AC3, 2022

Dear Referees

This message is just a "corrigendum" to our first response to Referee 1's comments posted on August 5. When re-reading our first comments, we found nasty "typos" and a missing reference to the manuscript in our long answer to the referee 1 comment to Figure 3 ("Figure 3: You probably mean key relations instead of key correlations. Actually, I have difficulties to see understand both, the explanations of how this is calculated and the reason why it has been done.")

In our answer, the following sentences should read correctly:

*"For example at 35°C assay temperature we found that the emission response to low CO2 (E<400/E400) was positively correlated with the ETR response to low CO2 (ETR<400/ETR400, Fig. 3a) and with the leaf's initial photosynthesis rate (A400, Fig 3b). The leaf's initial photosynthesis depended much on the leaf's initial stomatal opening G400 (R^2 between A400 & G400 = 0.924) and hence **E<400/E400-1** also correlated with G400 (Fig.3c). However, neither A400 nor G400 correlated with ETR<400/ETR400**-1**, suggesting that the emissions response to low CO2 levels is determined by two independent factors (cf. **L431 ff**), which could therefore together explain more than 80% of its variability (R2: 0.420 and 0.445; Figs 3a, b)."*

Due to a copy-paste error, the term "E<400/E400-1" was confused with the term "ETR<400/ETR400-1", rendering our response meaningless. This error might be exemplary of a weakness of our manuscript that complicates its readability, namely the many abbreviations of ecophysiological variables and their derivatives. During the revision of our manuscript (if approved by the editor and reviewers), we will improve this by reducing, simplifying, and clarifying the terminology currently used in the manuscript (including the abstract). We will also add equations to better illustrate how the various calculations and simulations were performed. It is in our own interest to produce an article enjoyable to read in order to attract a broad readership of BIOGEOSCIENCES, many of whom may not be specialists of plant ecophysiology.

Michael Staudt, on behalf of the co-authors