

Referee report

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Recommendation

I recommend accepting the manuscript for two reasons: (1) it provides significant insights into the key traits that statistically distinguish biomes, and (2) the authors, Scheiter et al., have carefully addressed the reviewers' concerns, leading to substantial improvements in the revised version.

Suggestions for revision

1. The introduction can be better structured. The ecological importance of the concept of biomes is not properly introduced, if not neglected. Adding a few sentences at the beginning would greatly help clarify the motivation for your study and draw readers' attention. Similarly, another key concept used throughout the paper, 'trait,' is not introduced. Audiences other than scientists who work in ecology might have difficulty understanding this term at first glance. Additionally, the connection between the previous works cited in the introduction is not very clear. In my opinion, there is still much room for improvement in the introduction.
2. A similar issue exists in the 'Data' section. It would be clearer if the author first introduced what is contained in the TRY database, for example.
3. The selection of subset traits in Section 2.4 can be better explained. Why is a certain number of subsets selected from the 33 candidates? I recommend incorporating your responses to Reviewer #1 into the manuscript to better explain the connection.