CPF responses written in this color

Associate Editor
Comments to the Author:
The revised manscript has been revised thoroughly in response to the reviewers comments. While it is clear that there are interesting and valuable potential extensions to the method, my view is that the current method is sufficiently novel and useful to warrant publication as is and hope that some of the extensions (e.g. site rate models, exploring dating with continuous trait data) are developed further. The majority of reviewers comments have been adequately addressed but some minor points remain, as well as a few additional minor edits that I outline below.

Line 22: previously highlighted by reviewer 1, "morphological character" should be replaced with "morphological character evolution"
Fixed.

Lines 216 and 219: references to Yang should be rewritten with Yang outside the parentheses.
Fixed.

Line 241: replace "should interpreted cautiously" with "should be interpreted cautiously"
Fixed.

Line 278: replace "scheme is enforces" with "scheme enforces"
fixed.

Line 313 and 315: Apologies but I am not quite clear on the meaning of organs in the context given. Is it in reference to different biological organs or to data compiled from one or two different publications?
I tried to clarify that I meant biological organs here. I also reworded this sentence to avoid confusion among readers.

Line 316: The wording of the sentence beginning "Unlike in a previous paper..." is awkward. I think it is the "also" that is the problem. I suggest removing "also" if the intended meaning of the sentence is unchanged.
I have rewritten this sentence to avoid the awkward wording.

Line 578: The phrase "moving forward" is used four times. It's a minor stylistic thing but it felt very repetitive. The last two instances (line 592 and 596) could simply be deleted and no meaning or clarity would be lost. On line 587 it is not clear what "They" refers to hence the "move forward" is similarly unclear. I think "They" relates to the weighting schemes.
I agree. I have removed all but the first 'moving forward'. I have simply removed the sentence referred to in the last sentence. On rereading, it felt superfluous and unclear in intention.

Reviewer 2 previously asked how equation 7 produces integer values. The response couldn't find where this suggestion comes from but it appears on line 263: "whole integer values, where the weight equals the value obtained from equation 7". Certainly the implication is that equation 7 generates whole integers. Either this is a misinterpretation, in which case the description in the text needs to be clarified, or the wrong equation is referenced.
Thank you so much for tracking this down! I must have reordered the labellings early in the drafting of the manuscript, and forgot to update this reference. The reference in the text has been corrected to 'equation 11', which does produce integer values.

In response to reviewer 1's comments on the use of a node count as a measure of model validation the suggestion of using RF distances is dismissed. I don't have a problem with that, but the general point about mode counts being context dependent (i.e. how big is the tree?) still stands. An alternative to a node count would be to divide the node count by the maximum node count separating two tips in the tree. Then you would have an index varying from 0-1 that is broadly comparable across trees.

This is a good point. I have scaled the values to the total possible path length, as you suggest, and edited relevant parts in the text to express the values as 'placement error', rather than as raw distances. Upon reread, this seems more easily interpretable, and as you say, generalizable.