

Dear Dr. Schöngart,

We are very pleased to have the opportunity to revise our manuscript for publication in Biogeosciences. Below we clarify the changes made to the manuscript in response to the suggestions made in your final critique. Those changes are reflected in the revised manuscript.

Sincerely,

Katherine Heineman, on behalf of all the co-authors.

In the title and abstract you mention 339 tree species, however, Table S1 indicate a total of 318 tree species. Please check this.

The number of species listed in the title and methods differs from the number in the supplemental table because we did not include morphospecies in the supplemental table, a detail that is stated in the table legend. We omitted morphospecies from the table because we felt the purpose of the table was to allow readers to view the stem rot frequency and severity of species of interest. To clarify why the values differ, I have added the following text to the Table S1 legend: “This list excludes morphospecies, which accounted for 21 of 339 species sampled at central Sarawak and Lambir.”

.”

The abstract indicates a total of 3180 drilled, felled and cored individuals, however, summing up the values in Table S4 results in 3176 trees.

The coring column of Table S4 has been change to “356” trees identified to species and “365” tree total. We accidentally excluded 4 trees when making this table by finding tree > 6 cm DBH, rather than \geq 6 cm DBH. The total number of trees Table S4 now matches the total number of trees listed in text.

P. 4, L. 8: I suggest citing a different reference here. The study of Ng (2013) states that in tropical rainforests with no dry season age cannot be estimated by tree rings (he indicates that tree rings only develop under a seasonal tropical climate) and the author suggests to use the decay rate of wood to estimate the age of that present hollow or decay. However, a nice study showing the variation of the relationship between diameter and age is Brienens & Zuidema (2006) and also Baker et al. (2005):

Baker PJ, Bunyavejchewin S, Oliver CD, Ashton PS (2005) Disturbance history and historical stand dynamics of a seasonal tropical forest in Western Thailand. *Ecological Monographs*, 75(3): 317–343.

Brienens RJW, Zuidema PA (2006) Lifetime growth patterns and ages of Bolivian rain forest trees obtained by tree ring analysis. *Journal of Ecology* 94: 481–493.

Meanwhile many studies showing evidentially the annual nature of tree rings in the tropics, also in regions with annual rainfall above 3000 mm (Mariaux 1970; Détienne & Mariaux 1977; Jiménez & del Valle 2011, Herrera & del Valle 2011; Zuidema et al. 2011, 2012; Fichtler et al. 2013; Groenendijk et al. 2014).

Thank you for providing these citations, we agree these provide better support to our point that trees of a given size could vary widely in age. Baker et al. 2005 and Brien & Zuidema 2006 now replace Ng 2013 in the introduction and literature cited.

P. 5, L. 7: Shouldn't it be "severity of stem rot may change with the availability of edaphic resources"?

The second "with" in this sentence has been changed to "of".

P. 5, L. 12: Check the citation "Heinemann and Russo et al., unpublished" (is it Heinemann et al. or Heinemann and Russo?).

This citation has been changed to "Heineman and Russo, unpublished."

P. 5, L. 16: Present e.g. in normal letters without comma.

Done.

P.7, L. 8: Indicate unites for the 3 x 3 square.

There are no units because it is referring to the pattern in which the plots were arranged. To clarify, we now write 3 x 3 "grid" instead of 3 x 3 "square."

P. 7, L. 9: Indicate manufacturer and country of the BAF 10 prism.

A standard BAF 10 prism was used, however, the manufacturer information is no longer available because it has been > 40 years since the study took place.

P. 7, L. 11: Shouldn't it be far away?

Done.

P. 7, L. 14: Present i.e. in normal letters without comma.

Done.

P. 5, L. 15-17: Please check the wording of this sentence.

This sentence has been modified to read "Nearly all stems \geq 40 cm DBH qualified as containing at least one commercial log."

P. 5, L. 25: Delete the comma at the end of the sentence.

Done.

P. 8, L. 16: Indicate manufacturer and country of the hand-borer.

The manufacturer has been added (Haglöf Sweden AB, Sweden).

P. 10-12: Section 2.6: Please present the headings as sections:

2.6.1 Differences in stem rot detection among datasets

2.6.2 Variance partitioning among taxonomic levels

2.6.3 Association of stem rot with ecological covariates:

Done.

P. 11, L. 22-23: Indicate the term " $\sigma^2\mu_0/(\sigma^2\mu_0+\sigma^2e_0)$ " as equation (Eq. 1).

Done.

P. 12, L. 6: add a dot between "variable" and "All".

Done.

P. 12, L. 22: changes to "Eq. 2".

Done.

P. 16, L. 1: Check wording (two times "model").

The phrase "for Model 1" has been deleted.

P. 18, L. 2: Check wording (two times "are").

The second "are" has been deleted.

P. 19, L. 22: In the introduction you argue that tree diameter is a bad proxy for tree age.

Although we caution that tree age is an "imperfect proxy" for tree age in the introduction, it is undeniable that on average, bigger trees are older than smaller trees in tropical forests.

P. 20, L. 8: Delete "and" between "wood density" and "growth".

Done.

P. 22, L. 1-4: Rewording (two time susceptibility).

The sentence now reads: “Perhaps surprisingly, stem rot frequency varied among genera but not among families, suggesting that dipterocarp taxa do not differ systematically in susceptibility to rot from non-dipterocarp taxa in MDF forests, despite showing broad differences in other traits such as mycorrhizal association (Wang and Qiu, 2006).”

P. 23, L. 14: Present *ca.* in normal letters.

Done.

P. 31, L. 25; P. 32, L. 25; P 33, L. 16 and 22; P. 35, L. 21; P. 36, L. 11: Add dots after the abbreviations of journal name.

Done.

P. 32, L. 9-10: Indicate the journal’s name as abbreviation and indicate volume and page numbers.

Done.

P. 32, L. 12 and 16: Journal’s name with abbreviation?

There is no ISI abbreviation for Journal of Arboriculture, so the journal title was left as is.

P. 33, L. 17-18: Format.

Done.

P. 34, L. 7-8: PNAS?

The ISI abbreviation for PNAS is P Natl Acad Sci USA

Please check the use of dashes and hyphens: En dashes (–) are longer than hyphens (-) and serve numerous purposes. Please note that we use spaced en dashes for syntactic constructions, not em dashes (—). En dashes are used to indicate, among other things, relationships (e.g. ocean–atmosphere exchange), ranges (e.g. 12–20 months), and components of a mixture (e.g. dissolved in 5:1 glycerin–water). They are also used to link the names of two or more persons used as a modifier (e.g. Stefan–Boltzmann constant).

Done.

Legends of Tables 1, 2 and 3 and Figure 2: Indicate “methods” not in italic.

Done.

Legend of Figure 5: Indicate space between number and unit (100g).

Done.

Table S1: Please indicate genus and species names in italic and indicate the meaning of “NA” in the table legend.

We added the following text to the table legend, “If no observations were recorded for a species in given column, the cell is marked “NA”.”

Table S1, P. 9 and 12: As far I know Sterculiaceae and Tiliaceae are now Malvaceae (APG III).

Families listed as Sterculiaceae or Tiliaceae have been converted to Malvaceae

Table S2: Please indicate the meaning of CEC.

Done.

Please change the sequence of Tables S5 and S6 as Table S6 is cited in the text before Table S5.

The order of figures has been changed in the supplement and the in text references have been changed to reflect this.

Legend of figure S1: Indicate “methods” not in italic.

Done.