

Revision notes to RRC1

bg-2019-94

Distribution and degradation of terrestrial organic matter in the sediments of peat-draining rivers, Sarawak, Malaysian Borneo" by Ying Wu et al.

1. *Comments: Line 357: What is additional lignin? I am still not clear.*

Reply:

Thanks for the comments, we modified the paragraph as suggested, make it more clear and fluent. See L354-360.

Revised:

All P/V values from the samples (0.13–0.28) are higher than the average P/V ratio of wood (0.05) but similar to the range observed for leaves (0.16–6.9; Hedges et al., 1986). Considering this, some non-woody angiosperms are the most likely source of high P phenols in the small rivers. Combined the composition of P and V in plants samples listed in Table S2, we find some dominant species, e.g. *Dipterocarpaceae*, *Bruguiera gymnorhiza*(L.) Poir., *Elaeis guineensis* Jacq. have a relatively higher P/V ratios in their non-woody parts.

2. *Comments: Fig. 4b and Fig. 4d: I can understand that the authors try to find some trend between $(Ad/Al)_v$ and Λ_8 , and $(Ad/Al)_v$ and mean grain size, however, in my opinion, they don't have to be correlated. If there is no correlation, then there is. The samples were so scattered (as shown by the large error bar), I don't think this kind of data presentation is convincing.*

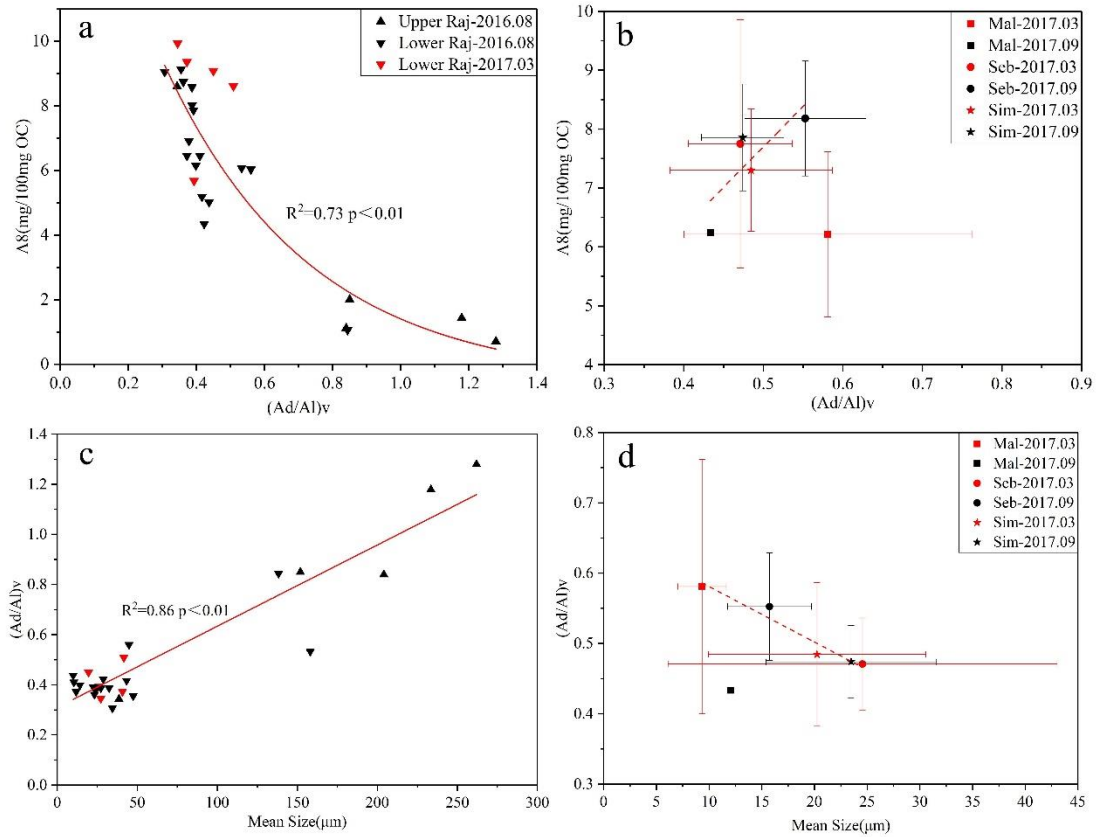
Reply: Accepted, we modified the Fig 4d as suggested, and related descriptions in various paragraphs have been revised accordingly. See L373-375, L379-380, L422-424.

Revised:

In addition, such a distribution could be related to the grain size effect, as illustrated in the Rajang with high correlation (Fig. 4c) and not so convincing but with a certain trend in small rivers (Fig. 4d).

The variation of $(Ad/Al)_v$ ratios with mean size of the sediments in the small rivers is not so convincing as the Rajang (Fig. 4d).

For the small river systems, the $(Ad/Al)_v$ ratios inattentively decrease with increasing grain size, corresponding to the increasing $\Sigma 8$ values (Fig. 4b and 4d). Such kind of trends have been described by Keil et al. (1998) and Tesi et al. (2016)

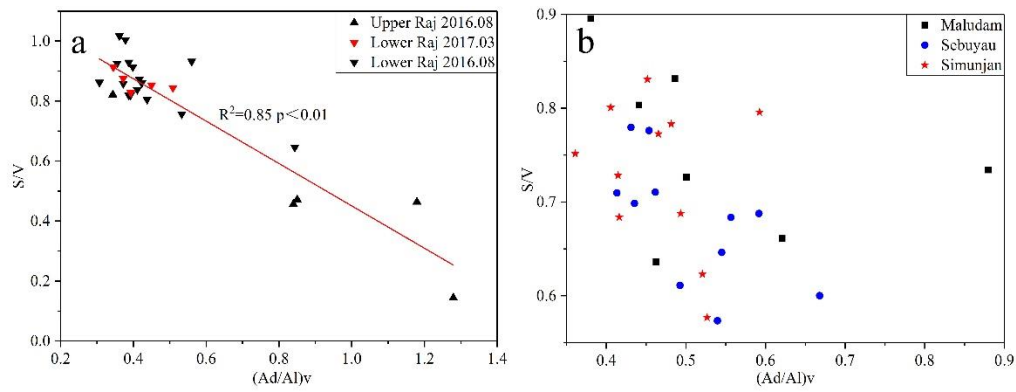


3. *Comments: Fig. 5b: I am glad to see the response, but why the authors not presenting them in this way? If there is still reverse correlation in each river, why not showing them? In my opinion, if there is no correlation between S/V and (Ad/Al)v for all the small river samples, but there are some correlations in each river, then this might indicate that there is inter-basin variability, and this kind of correlation was basin dependent. The current Fig. 5b is not convincing, I suggest the authors present it in the same way as they do in the response.*

Reply: Accepted, we revised the Fig 5b with scattering dots and modified the sentence in the text. See L387-388.

Revised:

However, the variation of the S/V and (Ad/Al)v ratios in the small rivers is limited, with a scattering decrease trend (Fig. 5b).



4. *Comments: Fig. 6b: Again, if there is correlation, why not simply showing it? One way you can do is to mention that that C/N and (Ad/Al)v were significantly correlated with $R^2 = 0.34$, then telling the readers for what reason, average values were presented.*

Reply: Revised as suggested, please refer to L 443-446.

Revised:

The relation of (Ad/Al)v ratios with C/N ratios of the Rajang appears correlated ($r^2 = 0.34$). For the comparison, average values were applied to two systems, we found the average (Ad/Al)v ratios had certain correlation with the average C/N ratios, but with different slopes for the Rajang and the small rivers (Fig. 6b).