Grootemaat\_2017\_1\_AusTraits\_QandA

1. (section general) Your values for leaf P seem too low - they are the lowest for all of AusTraits. Do I have your units correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#WVVXSPCB)

The samples were supplied to David Appleton for chemical analyses, and the reported values and units were given to me by him. I will attach the original file he sent me.

But wait! I just realised!!!! The leaves for this study were senesced leaves. So the trees had resorbed their nutrients!!! Makes a lot more sense now!!!

I’ve assuming this means that all the leaf nutrient data were on senesced leaves then?

1. (section general) As with your other 2017 study, something seems off with how I’ve aligned your water content values - we can talk about this on Thursday. [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#KRPHHLPU)

I calculated my moisture content as:

(Fresh weight - dry weight)/dry weight \* 100 %.

I don’t think there is something wrong with the unit conversion, but it is important to note that these leaves were air-dried in paper bags under ambient conditions before the time of measurements.

Is this possibly because your data are on senesced leaves? In which case I shouldn’t be mapping your data onto this trait, since all the other data is for live leaves.

1. (section traits) Does this study include other trait data we may have missed? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#JOYZBEXE)

* Yes. The study includes data on decomposition:
  + MassLoss\_3.5 = percentage mass lost after 3.5 month (%) [LEAVES only]
  + MassLoss\_12 = percentage mass lost after 12 months (%) [for both BARK and LEAVES]
  + MassLoss\_24 = percentage mass lost after 24 months (%) [for both BARK and LEAVES]

Mass loss can be re-calculated to decomposition constants if that fits better with the database?

* The dataset also includes information on energy content (MJ/kg) for both LEAVES and BARK (as measured with a Parr 6400 calorimeter).
* BARK tensile strength was measured by means of a punch test. This tensile strength is expressed as Maximum Flex Load (MaxFlexLoad) and MFLperTHICKN in the excel file.  
  From the supporting information I can see that MFLperTHICKN was used as the variable for tensile strength, in Newton/mm.

You have lots of traits that weren’t yet in AusTraits. I’ve mapped some in and for now left others out – we generally (but not always) set the threshold higher than 10 species to add new traits. So I’m adding all the methods/other metadata into the yml file for all data columns but for a handful of traits, not “mapping” them onto an AusTraits trait yet. I’ve added to the list of noted exclusions – which are flagged in a way that I can easily search for them in the future and map them in with 1 word.

1. (section traits) Can you provide any additional information so that above exclusions no longer apply? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#MRNMCBYS)

Hmmm, I am not sure how we end up with so many missing values.

The bark\_CU\_per\_dry\_mass exclusions seem reasonable to me. Still it intrigues me, because these were true replicates and the same methods were used for all replicates…

These were values that were ‘0’ – we omit all zeros for chemical analyses

1. (section traits) Do the data for the trait bark\_density appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#IPCSSDMI)

Yes. I think the outliers to the right can be explained by measurement errors. The higher values are mostly from Ang\_his and Cor\_gum. For these species the bark was very curly which made measuring more challenging. We did the best we could…

To make the data more useful to others, if you’re not sure about the highest values, I can set the threshold to “1” or “1.1” and then filter out the highest numbers.

1. (section traits) More than 10% of your data points for the trait fire\_flame\_duration are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#TAJDNTTD)

It seems like the fire values for LEAVES and BARK were lumped here? I don’t think that is the best approach… I see flame\_duration as a relative measurement (to compare species), rather than an absolute measurement. Also, the bark samples were standardised by size so they would fit in the furnace. Unlike the leaves which were in their natural shape/size. Size does affect flame duration, so I don’t think we should lump LEAVES and BARK together.

I’ve filtered out the bark data for now. I think this is probably a discussion for the broader defining of traits in the next phase of AusTraits.

1. (section traits) More than 10% of your data points for the trait fire\_smoulder\_duration are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#IXKRNROK)

It seems like the fire values for LEAVES and BARK were lumped here? I don’t think that is the best approach… I see smoulder\_duration as a relative measurement (to compare species), rather than an absolute measurement. Also, the bark samples were standardised by size so they would fit in the furnace. Unlike the leaves which were in their natural shape/size. Size does affect smoulder duration, so I don’t think we should lump LEAVES and BARK together.

I’ve filtered out the bark data for now. I think this is probably a discussion for the broader defining of traits in the next phase of AusTraits.

1. (section traits) Do the data for the trait fire\_time\_to\_ignition appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#MJCMVHCQ)

It seems like the fire values for LEAVES and BARK were lumped here? I don’t think that is the best approach… Can you split them out please?

I’ve filtered out the bark data for now. I think this is probably a discussion for the broader defining of traits in the next phase of AusTraits.

1. (section traits) More than 10% of your data points for the trait fire\_total\_burn\_duration are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#QMWQKPQD)

It seems like the fire values for LEAVES and BARK were lumped here? I don’t think that is the best approach… Can you split them out please?

I’ve filtered out the bark data for now. I think this is probably a discussion for the broader defining of traits in the next phase of AusTraits.

1. (section traits) Do the data for the trait leaf\_density appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#LTPWXCUY)

Yes, although I question the values above 1 g/cm3. Water has a density of 1. So leaves with a value above 1 would sink in water… I find that hard to believe. And I think it is part of the error when calculating density based on leaf volume.

I could simply set the threshold as “1” and then the two values that are >1 would be excluded.