Grootemaat\_2017\_1\_AusTraits\_QandA

1. (section general) Note to AusTraits data processors, this study includes many additional traits measuring bark strength and bark flammability that are not yet traits in AusTraits [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#QOSALJZZ)

Yay!

1. (section general) In the manuscript you have a single generic lat/lon for Kuringgai. Do you have more specific site details for the West Head vs Bobbon Head sites? Maybe from one of Ian’s studies? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#KLODARHQ)

Hi Lizzy,

Yes, for the West Head sites we can use -33.578781; 151.304784 (lat/long, dec deg),   
-33.619800; 151.267429 and -33.651660; 151.255547. (I sampled multiple locations at West Head).

For the Bobbin Head site we can use -33.661582; 151.149208.

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!!!

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.

1. (section people) Are all appropriate people listed, with appropriate details? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#KHQONRRW)

Alysson Eller helped me with the experimental design and litterbag fabrication. She is mentioned in the acknowledgements of the paper.

Vincent Maire helped me with collection of samples (fieldwork).

Veronica Shaw contributed significantly with the trait collection and measurements and has therefore be added as co-author.

The other co-authors are correctly mentioned in the source-section, i.e. Peter van Bodegom and Hans Cornelissen.

* + - Long story short: as authors of the trait data I think it would be good to add Veronica Shaw as an assistant. Ian as the lab\_leader indeed, and myself as the collector and contact.

1. (section source) Are the citation details for this study correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#GJLLBRYR)

Yes

1. (section dataset) Can you provide more detailed information for any of these variables? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#RYCSZVPO)

The year\_collected\_end should be 2015.  
The samples were indeed collected in 2012, but the decomposition experiments and flammability experiments were run throughout 2013 and 2014. The decomposition retrieval after 24 months was in January 2015.

1. (section sites) Do site details look complete and accurate? As a minimum we would like latitude, longitude, description. [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#UCUHDZQF)

Yes, for the West Head sites we can use -33.578781; 151.304784 (lat/long, dec deg),   
-33.619800; 151.267429 and -33.651660; 151.255547. (I sampled multiple locations at West Head).

For the Bobbin Head site we can use -33.661582; 151.149208.

Description (this was somewhat shortened in the final manuscript):

-Dry sclerophyll forests.

-The soils in KuRingGai Chase National Park are predominantly sandy (derived from Hawkesbury sandstone) and very low in nutrients, i.e. typically 30-80 mg/kg P (Leishman & Thomson 2005). Blackwall Mountain Reserve is located on the interface between Hawkesbury and Narrabeen Sandstones (i.e. infertile sandy oil; Gosford City Council 1996). Because of the proximity of the sites, the climate is very similar. Long-term climate data (last ≥50 years) indicate a mean annual temperature of 17deg Celcius and a mean annual rainfall of 1332 mm (Australian Bureau of Meteorology).

1. (section contexts) Do the context details look complete? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#NNZVECJV)

Yes

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.

1. (section traits) Were any of your data sourced from other studies? If so, can you tell us which records and the source (so that we can avoid duplicates, where possible)? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#ZKBSDXUY)

No, not that I can remember.

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…

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

The outlier to the right is interesting, but yes, this is a correct representation of the observations

1. (section traits) Do the data for the trait bark\_ash\_content\_per\_dry\_mass appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#IWKDYZDW)

Yes, the values to the left (<0.00) are interesting, but yes, this is a correct representation of the observations.

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

Yes

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

Yes

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

Yes

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

Yes

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

Yes, the outliers intrigue me.

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…

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

Interesting bell curve, but it is what it is. Big difference among and within species!

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

Yes

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

Yes

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

Yes

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

Yes

1. (section traits) More than 10% of your data points for the trait bark\_N\_per\_dry\_mass 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#NUGCILSV)

Especially Euc\_punc seems to have the lower values for N in its bark. I don’t have an explanation for this, but I believe the measurements were correct.

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

Yes

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

Yes

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

Yes

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

Yes, this is a true representation of the measurements. All the data point on the lower end are from one species, Syncarpia glomulifera. Apparently much lower in tannins!

1. (section traits) Do the data for the trait bark\_water\_content\_per\_dry\_mass appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#CIRCCNAX)

Yes. This was on air-dried samples (so no life water content)

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

Yes

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.

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.

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?

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?

1. (section traits) Do the data for the trait leaf\_ash\_content\_per\_dry\_mass appear correct? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#FYKSFLVG)

Yes, although low. But this is what was measured… The ash content in leaves of Syn\_glo was much higher than for the other species.

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

Yes

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

Yes. For whatever reason, leaves from Euc punctata had a higher value of Cu compared to the other species.

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.

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

Yes

1. (section traits) More than 10% of your data points for the trait leaf\_K\_per\_dry\_mass 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#XLCSMLRQ)

The values seem low indeed, but the leaves for this study were senesced leaves. So the trees had resorbed their nutrients!!! Makes a lot more sense now!!!

1. (section traits) More than 10% of your data points for the trait leaf\_N\_per\_dry\_mass 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#DFMGAKOV)

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

1. (section traits) More than 10% of your data points for the trait leaf\_P\_per\_dry\_mass 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#SSOARDWF)

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

1. (section traits) More than 10% of your data points for the trait leaf\_S\_per\_dry\_mass 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#JJSWAWDD)

Hmmm, they seem to be on the lower end, with the exception of Syncarpia glomulifera, but yes, this is what was measured. See other comments about nutrient resorption. These measurements were done on senesced leaves!

1. (section traits) More than 10% of your data points for the trait leaf\_tannin\_per\_dry\_mass 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#ABYYLHJT)

Yes

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

Yes

1. (section traits) More than 10% of your data points for the trait leaf\_Zn\_per\_dry\_mass 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#CDCRFTNV)

Yes

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

Yes

1. (section taxonomic\_updates) Do these taxonomic alignments and corrections look reasonable? [link](file:///C:\Users\saskia\Downloads\Grootemaat_2017_1.html#HIYVCGPT)

Yes