1. Question: (section general) Across what years were these measurements made?

Answer: 2004-2005

2. Question: (section general) There are a number of column in the “individuals” data file that I can’t quite figure out. I think I’ve captured all the ones that matter, but want to confirm that the column names including “sample” refers to a sample of multitple leaves - with the leaf count in the column’Nleavesfrac’.

Answer: The number of leaves sampled is given by the column "nLsample". The other column 'Nleavesfrac' was a numerical artifact (it rounds to the whole number nLsample). Please delete Nleavesfrac.

3. Question: (section general) The units you give in your metadata file for ‘work to punch’ and ‘specific work to punch’ are different from those given in your thesis. Since those in your thesis match both Onoda 2011 (which you cite) and other datasets in AusTraits I’m assuming those are correct.

Answer: I apologise for the errors in the Metadata. The typographic errors have now been corrected in the thesis pdf and methods docx, attached via email. Correct units are: LS kN m-1 \*10 LSS MN m-2 \*10 LSD N g-1 m The report correctly states these units and the conversions to your standard expression.

4. Question: (section general) I have filtered plant height so that for each species duplicate values (within your study) are not read into AusTraits; I realize that for the vines/lianas where you have site\_max values this may have removed a few legitimate duplicates, but I suspect very few. (I’ve also filtered all species-level variables so they are only read in once per species.)

Answer: Yes, this all makes sense.

5. Question: (section general) Under dispersers, ‘chr’ is listed as a value but isn’t in the key’ is this ‘cassowary flying\_foxes rodents’ (as for ‘chsr’). What about ‘clfor’? Is that an alternative code for ‘cassowary’? Apologies for the lack of clarity. Comparing the values already in the AusTraits dataset, the final ‘key’ is: DispClassN DispClass dispersers

1 DivAvLs birds

2 DivAv birds

3 Avian birds

4 CLFor birds cassowary

5 CHr bats birds cassowary mammals

6 Rod rodents

7 Ws wind

8 WL wind

9 SmUn passive

The text for Methods should be changed to: Nine dispersal classes based on wind-dispersal mechanisms and interactions with 52 frugivore species; From CSIRO Fruit-Frugivore Interactions database, Rainforest Key for wind-dispersal. The classes are: AusTraits “birds”, comprising 1 DivAvLs Diverse avian species, landscape-mobile - Estimated >=24% of seed crop is removed by birds that move across the landscape, and disperse seeds over a range of moderate to long distances; 2 DivAv Diverse avian species, forest-dwelling, - Mainly dispersed by some combination of bowerbirds, riflebird, Ptilinopus fruit pigeons, and orioles, and facultative frugivores such as honeyeaters and trillers, with minor or no contribution from wide-ranging species - ‘Diverse’ refers to >=16 species of Avian dispersers, or >=14 species consuming >=40% of fruit crop, or >=12 species from >4 frugivore groups; 3 Avian Avian species, forest-dwelling - Lower diversity than for DivAv; AusTraits “birds cassowary”: 4 CLFor Cassowary and large forest-dwelling birds; AusTraits “bats birds cassowary mammals”: 5 CHr Dispersed only by Cassowary and/or Hypsiprymnodon, flying foxes, or rodents; AusTraits “rodents” 6 Rod Rodents only; AusTraits “wind”: 7 Ws Wind-dispersed small seeds with wing or plume; 8 WL Wind-dispersed large seeds with wing; AusTraits “passive”: 9 SmUn Small propagules with unassisted dispersal, including spores.

6. Question: (section general) should I be including John Kanowski’s references as secondary references for this study? And should he be included as an author?

Answer: Yes, if you want to use the 156 leaf samples I provided that come from Dr Kanowski’s studies, please do include John’s references and authorship (Dr John Kanowski, Australian Wildlife Conservancy, John.Kanowski@australianwildlife.org, collector). He is currently Chief Science Officer for the Australian Wildlife Conservancy. I have also included him as a co-author in the response form. I think it would be very valuable to ask Dr. Kanowski if you can include his dataset separately, because I only used a small portion of his dataset, and I don’t have the site locations (only site numbers). His other data is extensive, particularly for leaf nutrients, and would include site data on elevation, soils etc. I don’t know his view on sharing his other data, but I imagine he would be interested in AusTraits, if he has time.

7. Question: (section general) For both wood density (stem density) and seed mass I’ve filtered out values duplicated within AusTraits, since for these traits some of your data was sourced from other databases that we have included. I’d expected your wood density data would be tangled up with those submitted by Amy Zanne and in Jugi Ilic and Rob Kooyman’s datasets. I easily removed your data from the Zanne dataset (she’d flagged them as yours) and then easily filtered Ilic/Kooyman data out of your dataset, trying to follow our goal of attaching data values to their primary source whenever possible. I still have ~15 max plant height values that are duplicates of Rob Kooyman’s dataset, but assume those are co-incidental duplicates and should remain in the dataset. For seed mass, I ran our automated function that picks up duplicates and filters those out. I’ve attached the merged data file - it includes columns that indicates the presumed original data source. For data attributed to Kew we simply don’t have that raw study in AusTraits.

Answer: Yes, I agree with your decisions, including retaining the max plant height values that coincidentally are the same as (appear to duplicate) Rob Kooyman’s dataset.

8. Question: (section general) Don’t worry about all the supposed “missing values” - this is an artifact of only reading in a single value per species for species level traits, when the spreadsheet has 2000+ rows.

Answer: OK.

9. (section people) Are all appropriate people listed, with appropriate details? Link

Answer: Yes, with the addition of John Kanowski if including the samples from JK sites. His details are as above, and repeated here: Dr John Kanowski, Australian Wildlife Conservancy, John.Kanowski@australianwildlife.org, role: collector.

10. (section source) Are the citation details for this study correct?

Answer: Yes

11. (section dataset) Can you provide more detailed information for any of these variables? sampling\_strategy - this section currently gives the methods for transect surveys, not for sampling of plant traits (which was performed for the species identified on the transects, but not always using plants from the transects, and requiring sampling at many other sites). Please replace the existing text with the following: Field studies of the spatial distributions of species and plant functional traits were located in Brooks Valley, Mungalli, on the south-eastern edge of Atherton Tablelands. Plants of all species, from 4th-leaf seedlings to adults, were surveyed on three transects extending from primary rainforest into the adjacent secondary rainforest area. Trait data were obtained from field measurements of seedlings and adults of each species for seedling light environments, leaf traits and stem density, and collated from published and unpublished literature sources for all other traits, except seed dispersal which was assigned from analysis of the CSIRO Fruit-Frugivore Interactions database (Dennis and Westcott, 2006). The complete dataset consists of leaf and/or stem samples from 1840 plants of 183 species. Samples were taken from 3 – 13 seedlings and/or 3-24 adult plants per species. Seedlings were selected as healthy plants from 8 – 40cm in height, with no signs of stem damage, in the upper range of light environments for seedlings of that species. Adults were healthy plants above the minimum size and illumination for reproduction for a given species. Sites: Plants were sampled in Brooks Valley, Mungalli, or similar sites in the south-eastern Atherton Tablelands, between June and October 2004. (Six adult leaf samples were from more distant sites, in the Daintree.) Latitude and Longitude is given for each site in the traits database. The principal sampling site, Brooks Valley, Mungalli, is an area at the south-eastern edge of the Atherton Tablelands at 390 m altitude (range 382-394 m). The area receives high rainfall of >4000 mm per annum with only rare occurrences of a month with rainfall <100 mm during the cool season (May to October). The valley has has moderately-fertile basalt soils of the Maalan association, developed on old, very strongly weathered basaltic lava flows, with some influence of the underlying granite parent material (Laffan, 1988). Soil cores taken for this study at 16 sampling locations yielded estimates of macronutrients and cations within the mid to upper ranges of values for basalt soils on the Atherton Tablelands (Spain 1990). The valley was formerly covered in 'Complex Mesophyll Vine Forest' CMVF Type 1b with some areas of Mesophyll Vine Forest MVF 2a (Tracey, 1982). The area of secondary rainforest had regenerated (without management) over 50 years since the abandonment of moderately grazed dairy pastures, and the immediately adjacent primary forest is of CMVF Type 1b.

12. (section dataset) Can you provide missing details for the variable year\_collected\_start? 2004

13. (section dataset) Can you provide missing details for the variable year\_collected\_end? 2005

14. (section sites) Location data incomplete or unknown! Can you provide location details where your data were sampled? If data are from a National Park, biological reserve, or other location with a name, but not linked to a specific site within the park, the site name should be that national park (or similar), and we will use the park’s headquarters as the GPS coordinates. If the data are from herbarium specimens or a species monograph it is appropriate to leave this information blank. Answer: I have provided names and latitude and longitude data for all known sites. The missing data are for literature-sourced values, and for John Kanowski’s leaf traits.

15. (section sites) Do site details look complete and accurate? As a minimum we would like latitude, longitude, description.

Answer: see 14.

16. (section contexts) Do the context details look complete?

Answer: Yes

17. (section traits) Does this study include other trait data we may have missed?

Answer: No

18. (section traits) It appears as though we mostly have means for each species. Can you provide individual-level measurements?

Answer: Individual-level measurements have been provided separately whenever available.

19. (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)?

Answer: All data sources are given in the data file.

20. (section traits) Can you provide any additional information so that above exclusions no longer apply?

Answer: Missing data are simply due to the structure of the data (individuals were usually measured for some traits, not all traits, so many appear missing).

21. (section traits) Do the data for the trait establishment\_light\_environment\_index appear correct?

Answer: Yes

22. (section traits) Do the data for the trait leaf\_area appear correct?

Answer: Yes

23. (section traits) Do the data for the trait leaf\_dry\_mass appear correct?

Answer: Yes

24. (section traits) Do the data for the trait leaf\_dry\_matter\_content appear correct?

Answer: Yes

25. (section traits) Do the data for the trait leaf\_fresh\_mass appear correct?

Answer: Yes

26. (section traits) Do the data for the trait leaf\_thickness appear correct?

Answer: Yes

27. (section traits) Do the data for the trait leaf\_water\_content\_per\_area appear correct?

Answer: Yes

28. (section traits) Do the data for the trait leaf\_water\_content\_per\_fresh\_mass appear correct?

Answer: Yes

29. (section traits) Do the data for the trait leaf\_work\_to\_punch appear correct?

Answer: Yes

30. (section traits) Do the data for the trait leaf\_work\_to\_punch\_adjusted appear correct?

Answer: Yes

31. (section traits) More than 10% of your data points for the trait plant\_height are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits?

Answer: Yes. Rainforests contain many species that are tall relative to the rest of the Australian flora.

32. (section traits) Do the data for the trait reproductive\_light\_environment\_index appear correct?

Answer: Yes.

33. (section traits) More than 10% of your data points for the trait seed\_mass are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits?

Answer: Yes.

34. (section traits) Do the data for the trait specific\_leaf\_area appear correct?

Answer: Yes.

35. (section traits) More than 10% of your data points for the trait wood\_density are outliers, does this seem reasonable, given what you know about the biology of these species and overall distribution of values in Austraits?

Answer: Yes. Low values are for seedling stem tissue densities, not adult wood densities.

36. (section traits) Do the data for the trait cotyledon\_function appear correct?

Answer: Yes.

37. (section traits) Do the data for the trait cotyledon\_position appear correct?

Answer: Yes.

38. (section traits) Do the data for the trait dispersers appear correct?

Answer: No. Please see the responses under “5. Question: (section general) Under dispersers…” for the re-classification to best match the AusTraits categories.

39. (section traits) Do the data for the trait fruit\_type appear correct?

Answer: Yes.

40. (section traits) Do the data for the trait plant\_growth\_form appear correct?

Answer: Yes.

41. (section traits) Do the data for the trait pollination\_syndrome appear correct?

Answer: Yes.

42. (section traits) Do the data for the trait reproductive\_maturity appear correct?

Answer: Yes.

43. (section traits) Do the data for the trait seedling\_germination\_location appear correct?

Answer: Yes.

44. (section taxonomic\_updates) Do these taxonomic alignments and corrections look reasonable?

Answer: Yes.