**Supplementary Information 7: Modern Macropodid Analysis**

**This document consider the modern comparative dataset to determine which DMTA variables best delineate between known dietary groups. Data were modelled using GLMM (see main text).**

**SSFA Variables**

*Asfc*

Clear continuum from mixed feeders to grazers, but high variability in browsers.



*epLsar*

Continuum from browsing to grazing present. Outliers in *Dorcopsis atrata, Onychogalea unguifera* and *M. rufus.*



*Smc*

High variability in browsers and mixed feeders, but uniformly low in grazers.



*Tfv* & *Ftfv*

Similar but not identical trend for these 2 variables. Trend from browsers – grazers present, but some differences between species.



**STA Height Variables**

***Sp, Sq, Sv, Sz* & *Sa***

**Near identical data were generated for these five variables. These demonstrate a continuum from mixed feeders to grazers, but variability between browsing taxa.**



***Ssk***

**High variability between and within species.**



***Sku***

**High variability within species, and little difference between dietary groups.**



**STA feature / Hybrid variables**

***S5v, Sdq,* and *Sdr***

**All these variables showed some trends between dietary groups, but high within and between species variation makes them of little use.**



**ISO volume**

***Vm, Vmc, Vvc,* and *Vvv***

**Similar results for all volume-based variables. Strong trend present through grazers and mixed feeders. Trend continues into browsers, though *Dorcopsis atrata* and *Dendrolagus lumholtzi* are outlying taxa.**



**STA spatial variables**

***Sal***

**Weak but consistent trend across all species present except *D. atrata***



***Std***

**Some differences between dietary groups, but high within-species variation.**



*Str*

**Some differences between dietary groups, but outweighed by high between-species variation**



**STA miscellaneous variables**

***Sda***

**High variation between species. End members may be able to differentiate grazers and browsers though.**



***Sdv***

**Highly variable, no consistent trend.**



***Sha***

**Little variation between species, no clear trend.**



***Shv***

**High variation within species, no differences between diets.**



***Spd***

**No clear differences between dietary groups.**



***Sxp***

**High variation within species, no difference between dietary groups.**

