

Supplementary Figures for:

Differing effects of size and lifestyle on bone structure in mammals

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Figure S1.

Acquisitions of gliding lifestyle in Petauroidea. The most probable reconstructed ancestral state for Petauroidea is terrestrial (species tree from TimeTree.org [76]; make.simmap function of the phytools package [94], model with equal rates of transition, 1000 simulations), implying that an aerial lifestyle was convergently acquired in *Acrobates*, *Petauroides*, and *Petaurus*.

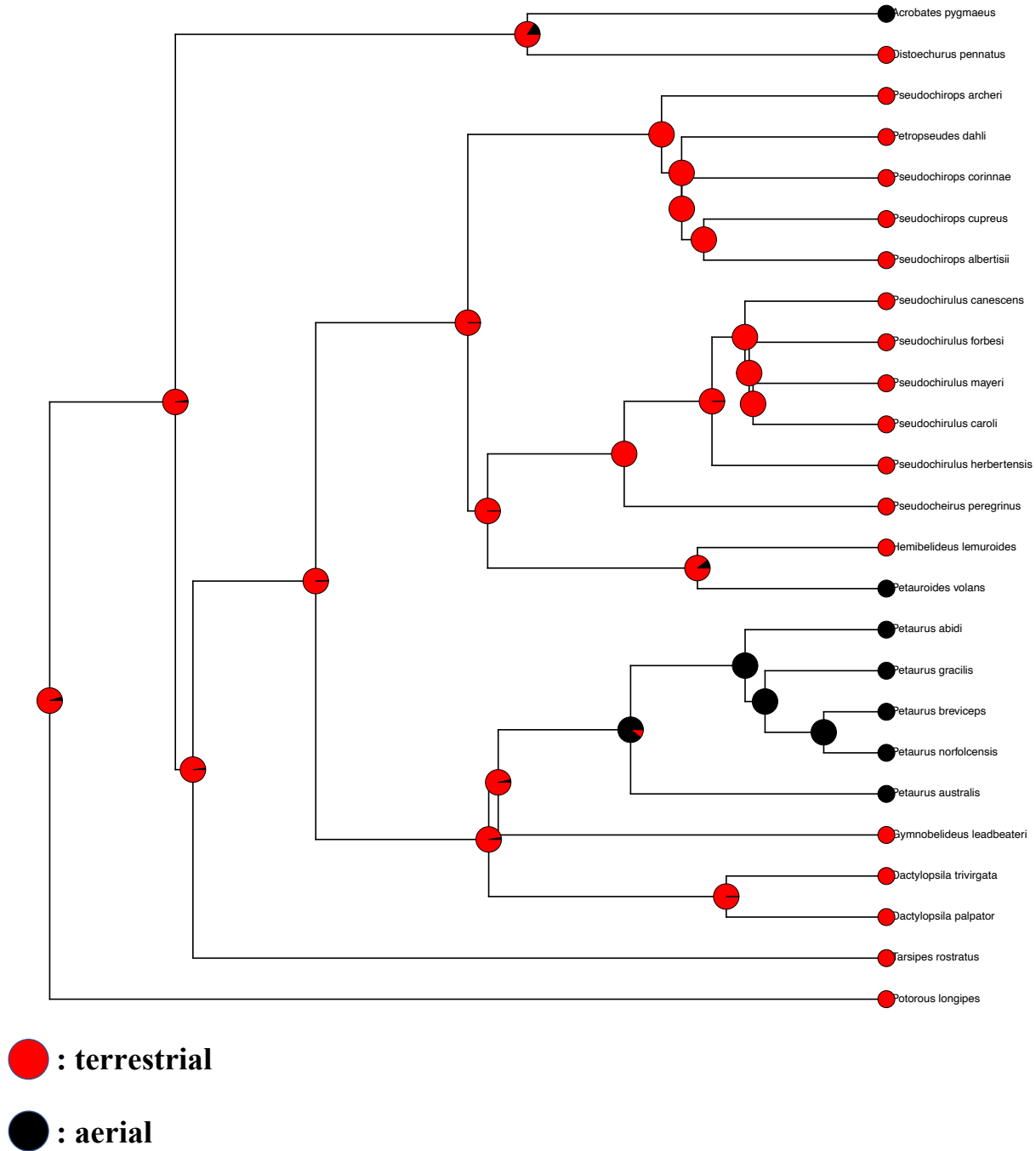
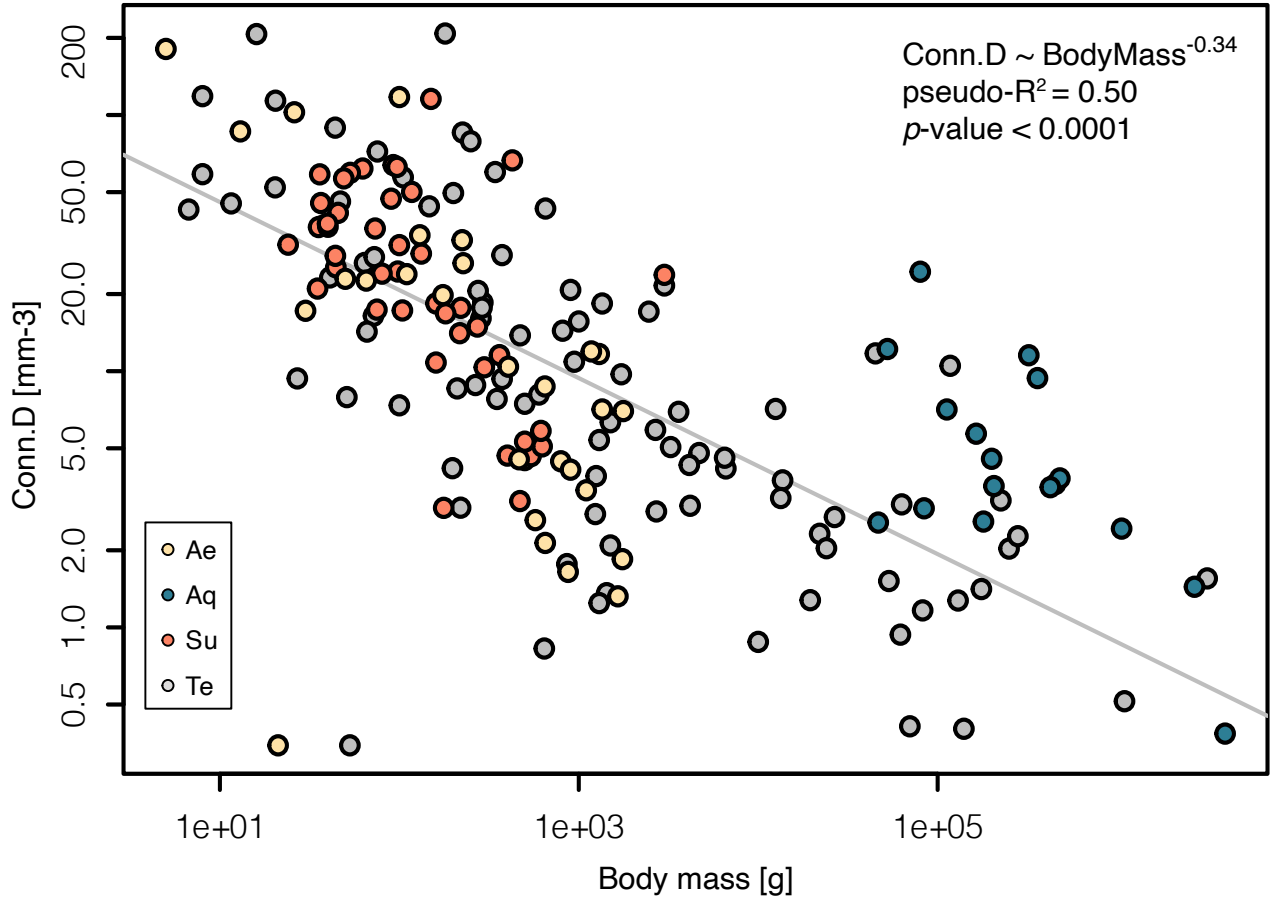


Figure S2.

Regression of the Connectivity Density (Conn.D; mm^{-3}) against body mass (g). A negative correlation is recovered: with log10-transformed variables, the regression coefficient is -0.34 (Standard error = 0.03). Note that this coefficient denotes positive allometry, because isometry for such a regression would be indicated by a slope of -1. Indeed, Connectivity Density has a dimension of a number per unit of volume. If the trabeculae would enlarge isometrically with increasing size, the same number of trabeculae would occupy a larger volume (so the ratio would be lower in larger species).

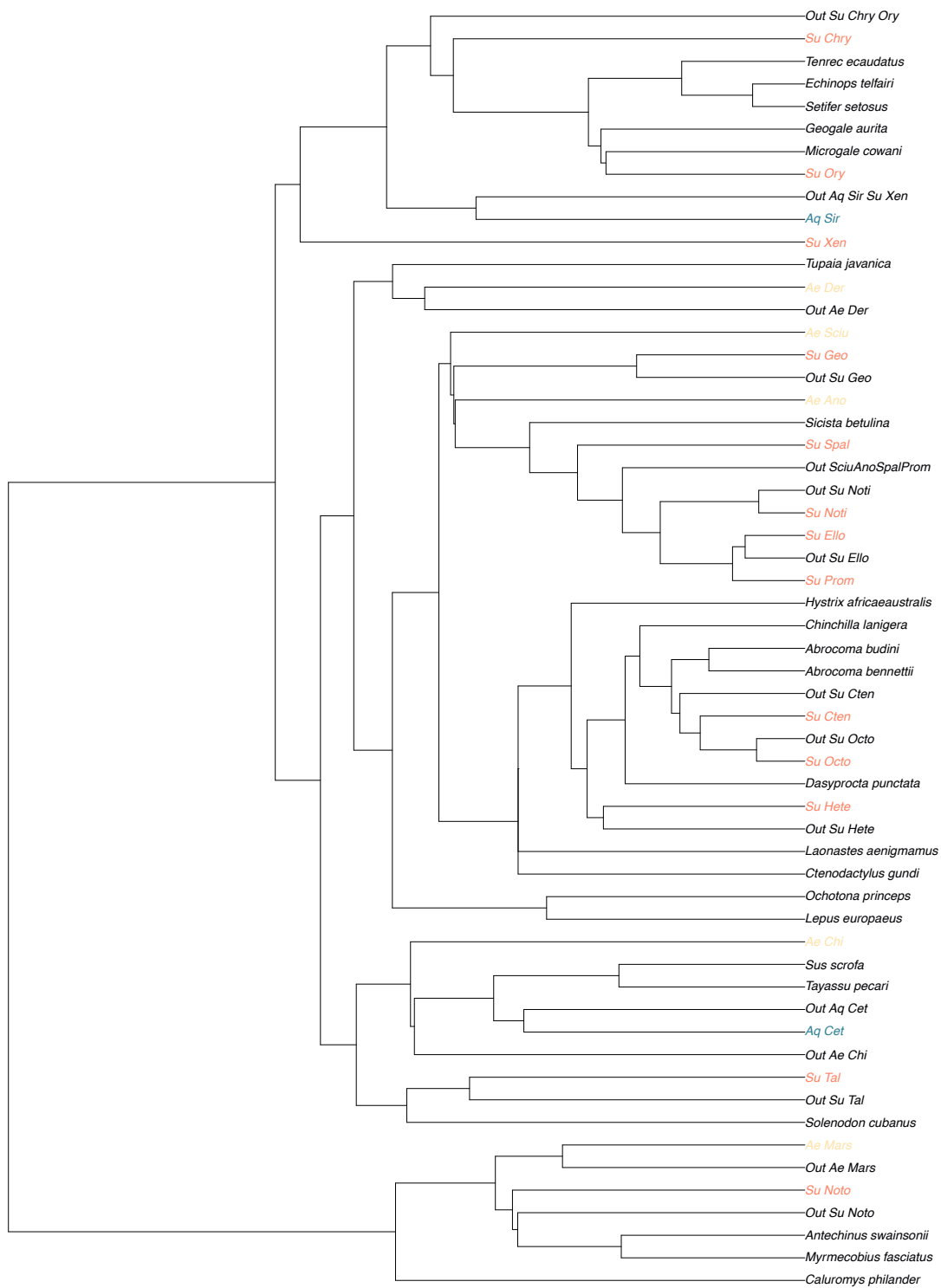


Timetree of the mammalian species sampled. Colours correspond to the specialised lifestyles, i.e., aerial, aquatic, and subterranean; black corresponds to the terrestrial lifestyle (note that this is a subgroup of the class ‘non-specialised’ used for the Fig.1). States at the nodes are reconstructed with stochastic character mapping (make.simmap function, 1000 simulations, equal rate model; phytool, Revell 2012). Each silhouette represents an independent acquisition of one of the three specialised lifestyle. Abbreviations: Anom., Anomaluromorpha; Lag., Lagomorpha; Xe, Xenarthra.



Figure S4.

Timetree amended by reducing each specialised clade and each sister-clade to one tip.



References

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