

Table S4. Results of phylogenetic generalized least squares models describing dry organ mass as a function of body mass, tropical or temperate climate, sex, migratory strategy (long-distance migrants that breed in North America and migrate at least as far as Central America vs sedentary birds and short-distance migrants) and diet

	Heart	Lungs	Flight muscles	Leg muscles	Gizzard	Intestines	Liver
Intercept	-2.284±0.077***	-2.382±0.084***	-1.308±0.087***	-2.133±0.108***	-2.420±0.169***	-2.587±0.160***	-1.903±0.099***
log ₁₀ (dry carcass mass)	0.897±0.034***	0.984±0.041***	1.050±0.037***	1.159±0.0414***	0.977±0.075***	1.109±0.074***	0.927±0.044***
Climate(=tropical)	-0.0937±0.0167***	-0.192±0.026***	-0.0477±0.0237*	0.0432±0.0157**	-0.0046±0.0471	0.0748±0.0394	-0.0427±0.0223
Sex(=male)	0.0281±0.0116*	0.0268±0.0139	0.0088±0.0100	-0.0225±0.0109*	-0.0351±0.0212	-0.110±0.028***	-0.0355±0.0156*
Migrant(=yes)	-0.0525±0.0287	0.0391±0.0404	0.0674±0.0364	0.0007±0.0281	-0.203±0.073**	-0.0179±0.0670	-0.0135±0.0379
Diet(=granivorous)	-0.0281±0.0297	0.0447±0.0405	0.0204±0.0395	-0.00465±0.0372	0.356±0.078***	-0.167±0.066*	-0.144±0.039***
Diet(=insectivorous)	-0.0283±0.0352	-0.0283±0.0448	-0.106±0.046*	0.0101±0.047	0.391±0.090***	-0.160±0.073*	-0.101±0.045*
Diet(=nectivorous)	0.140±0.106	-0.0290±0.0913	0.0530±0.0811	-0.169±0.174	-0.231±0.164	-0.0208±0.2081	-0.0536±0.1345
Diet(=omnivorous)	-0.0742±0.0302*	-0.0294.0428	-0.0221±0.0429	0.0864±0.0406*	0.286±0.084***	-0.107±0.065	-0.129±0.039**
Diet(=frugivorous)	0	0	0	0	0	0	0
df (residual, total)	175, 184	176, 185	178, 187	178, 187	174, 183	177, 186	177, 186
AIC _C Pagel	-339.6 (λ=0.654)	-268.3 (λ=0.527)	-354.9 (λ=0.819)	-335.7 (λ=0.926)	-80.0 (λ=0.828)	-34.1 (λ=0.462)	-239.0 (λ=0.601)
AIC _C Grafen	-348.9 (p=0.186)	-275.6 (p=0.180)	-366.5 (p=0.392)	-327.2 (p=0.371)	-105.1 (p=0.339)	-29.4 (p=0.097)	-236.2 (p=0.137)
AIC _C Martins	-325.7 (α=0.393)	-250.6 (α=0.926)	-328.6 (α=0.160)	-327.0 (α=0.070)	-42.6 (α=0.180)	-8.1 (α=0.588)	-221.0 (α=0.495)

	Kidneys	Ovaries	Testes	Skin	Spleen	Brain	Feathers
Intercept	-2.365±0.080***	-2.602±0.552***	-2.963±0.479***	-1.990±0.094***	-3.541±0.346***	-1.769±0.074***	-1.387±0.089***
log ₁₀ (dry carcass mass)	0.943±0.036***	0.979±0.335**	1.138±0.245***	1.037±0.060***	0.936±0.165***	0.628±0.030***	1.0693±0.0405***
Climate(=tropical)	-0.196±0.018***	-0.310±0.140*	-0.542±0.159**	0.0296±0.0279	-0.0543±0.0977	0.0127±0.0127	-0.150±0.019***
Sex(=male)	-0.0258±0.0125*			-0.0614±0.0186**	-0.101±0.722	0.0134±0.0088	-0.0184±0.0128*
Migrant(=yes)	-0.0765±0.0303*	-0.325±0.286	0.186±0.252	-0.0154±0.0453	-0.061±0.157	-0.0386±0.0222	0.0693±0.0128
Diet(=granivorous)	-0.154±0.032***	-0.828±0.311*	-0.275±0.242	0.0229±0.0580	-0.090±0.181	0.0305±0.0269	0.0794±0.0345*
Diet(=insectivorous)	-0.0147±0.0366	-0.451±0.332	-0.167±0.258	0.0294±0.0662	-0.158±0.189	0.0151±0.0333	0.0107±0.0439
Diet(=nectivorous)	0.0459±0.1090	-0.208±0.682	-0.710±0.558			-0.0531±0.1114	
Diet(=omnivorous)	-0.124±0.032***	-0.402±0.352	-0.001±0.248	-0.079±0.061	-0.068±0.167	0.0703±0.0284*	0.0490±0.0357
Diet(=frugivorous)	0	0	0	0	0	0	0
df (residual, total)	176, 185	50, 58	105, 113	101, 109	112, 120	175, 184	112, 120
AIC _C Pagel	-316.6 (λ=0.613)	106.5 (λ=0.812)	207.0 (λ=0.171)	-123.0 (λ=0.843)	151.8 (λ=0.304)	-424.3 (λ=0.848)	-228.8 (λ=0.745)
AIC _C Grafen	-314.0 (p=0.186)	105.6 (p=0.162)	202.5 (p=0.152)	-119.8 (p=0.228)	152.2 (p=0.049)	-410.8 (p=0.295)	-226.8 (p=0.213)
AIC _C Martins	-282.2 (α=0.860)	101.1 (α=0.160)	210.6 (α=19.5)	-124.9 (α=0.233)	153.3 (α=0.978)	-387.7 (α=0.052)	-205.8 (α=0.371)

Data are log₁₀ tissue or organ mass.

Parameter estimates for alternative variable values are used as reference and equal 0 and are not shown. For diet, frugivory is used as reference category.

Shown are parameter estimates with standard errors and p-value categories, as well as degrees of freedom (total=number of specimens), evolutionary model parameter estimates and AIC_C values of final model. Significant variables are emphasized with grey as is the model with lowest AIC_C. When a model did not converge AIC_C=NA.

*P<0.05; **P<0.01; *** P<0.001.