

## Bests fit models and values of coefficients for best fit models

***Best fit models for each group-response combination measured by AIC. Simple models only include threat status (NT or T) and log-citations. Complete complex models include all host traits and all interactions with threat status. Complete reduced models include some host traits and interactions as included if lower AIC.***

Group	Response	Best.model.overall	Best.complex.model
Carnivores	Host parasite richness	Complete	Complete
Primates	Host parasite richness	Reduced	Reduced
Ungulates	Host parasite richness	Reduced	Reduced
Carnivores	Proportion closely transmitted	Reduced	Reduced
Primates	Proportion closely transmitted	Complete	Complete
Ungulates	Proportion closely transmitted	Simple	Reduced
Carnivores	Proportion microparasites	Complete	Complete
Primates	Proportion microparasites	Simple	Complete
Ungulates	Proportion microparasites	Reduced	Reduced

***Model coefficients and highest posterior density region for best fit model of host-parasite species richness.***

Group	predictor	Estimate	Est.Error	Q2.5	Q97.5
Carnivores	Intercept	2.610	0.047	2.517	2.700
	threat	-0.276	0.224	-0.736	0.142
	citations	0.856	0.026	0.805	0.906
	range	-0.088	0.036	-0.159	-0.016
	group size	-0.205	0.076	-0.355	-0.059
	mass	-0.070	0.028	-0.126	-0.015
	lifespan	0.017	0.004	0.009	0.026
	latitude	0.000	0.002	-0.003	0.004
	threat:citations	0.384	0.140	0.128	0.671
	threat:range	0.206	0.049	0.112	0.304
	threat:group size	-0.294	0.193	-0.679	0.083
	threat:mass	1.117	0.300	0.546	1.729
	threat:lifespan	-0.158	0.040	-0.238	-0.083
	threat:latitude	0.100	0.024	0.054	0.150
Primates	Intercept	1.689	0.106	1.478	1.894
	threat	-0.177	0.170	-0.511	0.153
	citations	0.976	0.092	0.801	1.162
	range	-0.008	0.049	-0.102	0.088
	group size	-0.083	0.080	-0.240	0.074

Ungulates	mass	0.088	0.043	0.003	0.173
	lifespan	0.018	0.005	0.008	0.029
	latitude	0.002	0.005	-0.009	0.013
	threat:citations	-0.161	0.123	-0.402	0.079
	threat:range	-0.303	0.073	-0.447	-0.162
	threat:group size	0.165	0.102	-0.034	0.368
	Intercept	3.042	0.041	2.962	3.121
	threat	0.075	0.112	-0.150	0.296
	citations	0.789	0.031	0.729	0.850
	range	-0.125	0.025	-0.173	-0.077
	group size	-0.036	0.016	-0.068	-0.005
	mass	0.019	0.036	-0.050	0.090
	lifespan	-0.023	0.006	-0.036	-0.011
	latitude	-0.008	0.002	-0.012	-0.005
	threat:citations	0.298	0.096	0.114	0.490
	threat:range	0.116	0.035	0.049	0.185
	threat:group size	-0.048	0.031	-0.109	0.012

***Model coefficients and highest posterior density region for best fit model of proportion of only closely transmitted parasites.***

Group	predictor	Estimate	Est.Error	Q2.5	Q97.5
Carnivores	Intercept	-1.660	0.140	-1.939	-1.389
	threat	-0.498	0.331	-1.166	0.133
	citations	-0.405	0.092	-0.585	-0.226
	range	0.084	0.139	-0.190	0.353
	group size	0.120	0.262	-0.409	0.618
	mass	0.214	0.093	0.034	0.394
	lifespan	0.007	0.015	-0.022	0.035
	latitude	-0.006	0.006	-0.017	0.006
	threat:citations	0.672	0.305	0.106	1.295
	threat:range	-0.262	0.151	-0.550	0.040
	threat:group size	-0.870	0.647	-2.181	0.350
Primates	Intercept	-2.791	0.497	-3.841	-1.895
	threat	-1.436	1.073	-3.771	0.422
	citations	-0.718	0.328	-1.359	-0.083
	range	0.593	0.193	0.229	0.988
	group size	1.282	0.430	0.484	2.142
	mass	0.369	0.250	-0.106	0.877
	lifespan	-0.132	0.049	-0.234	-0.043

	latitude	0.062	0.023	0.017	0.108
	threat:citations	0.035	0.618	-1.232	1.202
	threat:range	-0.929	0.388	-1.714	-0.198
	threat:group size	-0.780	0.544	-1.829	0.306
	threat:mass	0.638	0.475	-0.269	1.606
	threat:lifespan	0.210	0.066	0.085	0.343
	threat:latitude	0.026	0.055	-0.082	0.134
Ungulates	Intercept	-2.091	0.138	-2.369	-1.823
	threat	0.302	0.259	-0.219	0.791
	citations	0.069	0.083	-0.092	0.233
	threat:citations	0.199	0.235	-0.238	0.690

***Model coefficients and highest posterior density region for best fit model of proportion of only microparasites (bacteria, viruses, protozoa, fungi).***

Group	predictor	Estimate	Est.Error	Q2.5	Q97.5
Carnivores	Intercept	-0.523	0.098	-0.719	-0.331
	threat	-0.415	0.423	-1.294	0.359
	citations	-0.179	0.054	-0.282	-0.072
	range	0.039	0.080	-0.117	0.193
	group size	-0.083	0.159	-0.401	0.224
	mass	0.227	0.059	0.114	0.343
	lifespan	0.014	0.009	-0.004	0.032
	latitude	0.002	0.004	-0.006	0.009
	threat:citations	1.593	0.292	1.064	2.209
	threat:range	-0.080	0.106	-0.287	0.125
	threat:group size	-0.428	0.432	-1.294	0.414
	threat:mass	0.220	0.560	-0.831	1.386
	threat:lifespan	-0.175	0.078	-0.334	-0.031
	threat:latitude	0.012	0.045	-0.073	0.105
Primates	Intercept	0.569	0.175	0.236	0.912
	threat	-0.542	0.217	-0.961	-0.122
	citations	-0.169	0.159	-0.490	0.136
	threat:citations	0.395	0.186	0.032	0.770
Ungulates	Intercept	-1.166	0.121	-1.408	-0.932
	threat	-0.402	0.286	-0.968	0.162
	citations	0.199	0.090	0.022	0.381
	range	0.080	0.065	-0.049	0.205
	group size	0.124	0.034	0.055	0.191
	mass	0.167	0.090	-0.009	0.344

lifespan	0.071	0.017	0.038	0.104
latitude	0.020	0.004	0.012	0.028
threat:citations	-0.575	0.191	-0.950	-0.199
threat:range	-0.310	0.090	-0.485	-0.137
threat:group size	0.056	0.073	-0.084	0.201