

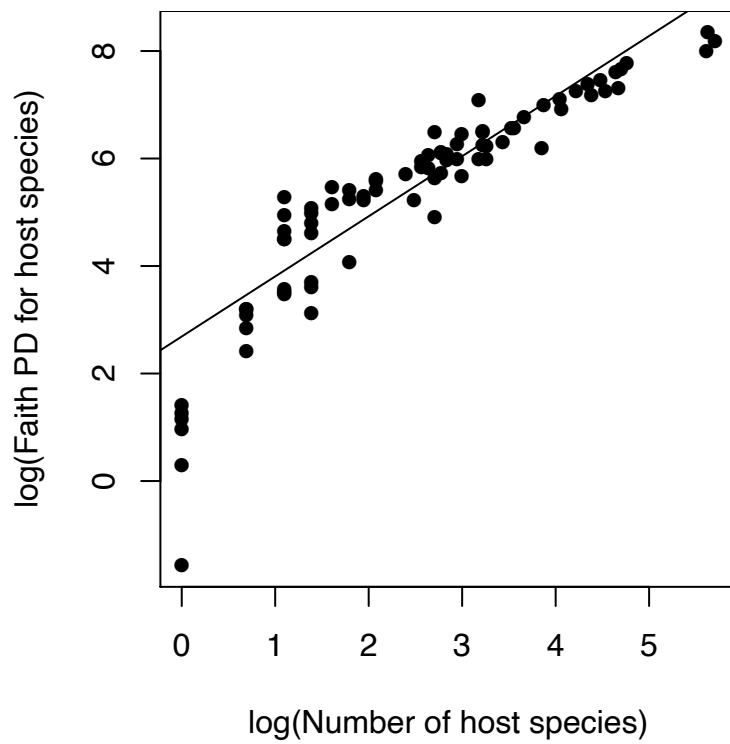
Supplementary Information

Ecological uncertainty favours the diversification of host use in avian brood parasites

Antonson, Rubenstein, Hauber, and Botero (2020)

This pdf includes:

- Supplementary Figure 1
- Supplementary Tables 1-3
- Supplementary Note 1



Supplementary Figure 1. Pattern of association between the number and phylogenetic diversity (Faith's P.D.) of host species parasitised. Source data are provided as a Source Data file

Supplementary Table 1. Estimates of model parameters with credible intervals that overlapped zero. Values depict the credible intervals (CI) extracted from the last model parameterization in which a given variable appeared during model reduction.

Parameter	Estimate	Lower 95% CI	Upper 95% CI
<i>Models for host numbers</i>			
Parasite migration	0.404	-0.122	0.927
Xeric harshness (PC2)	-0.090	-0.282	0.103
More cooperative breeding hosts (PC3)	0.452	-0.026	0.916
Mean host clutch size (PC8)	-0.015	-0.209	0.183
Temperature harshness (PC1) * Parasite migration	0.498	-0.500	1.500
Xeric harshness (PC2) * Parasite migration	0.007	-0.408	0.420
<i>Models for phylogenetic diversity of hosts</i>			
Parasite migration	0.364	-0.357	1.068
Xeric harshness (PC2)	-0.054	-0.301	0.193
Longer breeding seasons (PC6)	-0.007	-0.268	0.253
More uniparental provisioning (PC7)	0.547	-0.054	1.155
Mean host clutch size (PC8)	-0.029	-0.290	0.244
Temperature harshness (PC1) * Parasite migration	0.320	-0.827	1.458
Xeric harshness (PC2) * Parasite migration	0.207	-0.328	0.738

Supplementary Table 2. Robustness of the simplified model of host numbers to variation in threshold sample size for inclusion (K).

Parameter		Estimate	Lower 95% CI	Upper 95% CI
(Intercept)				
	K = 10 studies	1.294	0.508	1.991
	K = 20 studies	1.297	0.519	1.987
	K = 30 studies	1.579	0.886	2.210
	K = 50 studies	1.516	0.785	2.170
Effort				
	K = 10 studies	0.570	0.280	0.864
	K = 20 studies	0.559	0.254	0.868
	K = 30 studies	0.825	0.494	1.158
	K = 50 studies	0.877	0.533	1.220
Temperature harshness (PC1)				
	K = 10 studies	0.826	0.273	1.382
	K = 20 studies	0.830	0.269	1.395
	K = 30 studies	0.543	0.002	1.097
	K = 50 studies	0.549	-0.001	1.105
More protected nests, local options, resident hosts (PC4)				
	K = 10 studies	-0.495	-0.758	-0.222
	K = 20 studies	-0.502	-0.770	-0.228
	K = 30 studies	-0.401	-0.653	-0.147
	K = 50 studies	-0.388	-0.647	-0.121
Global options (PC5)				
	K = 10 studies	0.283	0.065	0.503
	K = 20 studies	0.285	0.065	0.506
	K = 30 studies	0.129	-0.089	0.349
	K = 50 studies	0.123	-0.100	0.346
Breeding season (PC6)				
	K = 10 studies	-0.218	-0.415	-0.018
	K = 20 studies	-0.222	-0.421	-0.021
	K = 30 studies	-0.128	-0.327	0.075
	K = 50 studies	-0.107	-0.313	0.100
Uniparental host provisioning (PC7)				
	K = 10 studies	0.493	-0.008	0.983
	K = 20 studies	0.493	-0.002	0.986
	K = 30 studies	0.474	-0.015	0.962
	K = 50 studies	0.481	-0.008	0.972

Supplementary Table 3. Robustness of the simplified model of phylogenetic diversity in host use to variation in threshold sample size for inclusion (K).

Parameter		Estimate	Lower 95% CI	Upper 95% CI
(Intercept)				
	K = 10 studies	3.163	2.202	4.016
	K = 20 studies	3.171	2.220	4.012
	K = 30 studies	3.609	2.762	4.371
	K = 50 studies	3.512	2.653	4.292
Effort				
	K = 10 studies	0.514	0.157	0.867
	K = 20 studies	0.441	0.065	0.818
	K = 30 studies	0.547	0.185	0.900
	K = 50 studies	0.605	0.240	0.965
Temperature harshness (PC1)				
	K = 10 studies	1.353	0.666	2.048
	K = 20 studies	1.381	0.690	2.077
	K = 30 studies	1.063	0.442	1.707
	K = 50 studies	1.100	0.476	1.739
More cooperative breeding hosts (PC3)				
	K = 10 studies	0.980	0.368	1.582
	K = 20 studies	0.981	0.376	1.572
	K = 30 studies	0.888	0.364	1.411
	K = 50 studies	0.900	0.366	1.425
More protected nests, local options, resident hosts (PC4)				
	K = 10 studies	-0.824	-1.149	-0.482
	K = 20 studies	-0.866	-1.192	-0.524
	K = 30 studies	-0.801	-1.088	-0.508
	K = 50 studies	-0.784	-1.074	-0.482
Global options (PC5)				
	K = 10 studies	0.476	0.192	0.764
	K = 20 studies	0.493	0.206	0.779
	K = 30 studies	0.318	0.057	0.582
	K = 50 studies	0.308	0.048	0.571

Supplementary Note 1. Origins of data for Antonson et al. 2020 Variables.

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