Additional File 7 Model rankings exploring factors affecting detection probability (p) and prevalence (ψ) of *Haemoproteus* parasites in Ruby-crowned Kinglets.

Model	K	ΔAICc	w_i	Deviance
σ(.)+p(.)+ψ(.)+BCI+sex	4	0.00	0.52	26.97
σ(.)+p(.)+ψ(.)+BCI	3	0.95	0.32	31.01
σ(.)+p(.)+ψ(.)	2	3.20	0.10	36.01
σ(.)+p(.)+ψ(.)+sex	3	4.50	0.05	34.56

Model set and rankings exploring the importance of factors affecting the detection probability (p) and prevalence (ψ) of *Haemoproteus* blood parasites in Ruby-crowned Kinglets captured and sampled at a high-elevation valley in northern Colorado during 2017-2018. 'PCR run' indicates the 3 PCR replicates carried out for each sample. The number of parameters (K), model weights (w_i), and deviance are shown for each model and the models are ranked by their AICc differences relative to the best model in the set ($\Delta AICc_i$). Sigma (σ) was a random effect included in every model to account for unmodeled heterogeneity.