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Lab 3: Host Specificity

In today’s lab, we’re going to be using existing data sources to try and figure out which host characteristics may be associated with higher or lower parasite richness.

1. Pick 3-5 variables (or combinations of variables) that you think may have some relationship with host parasite richness. For each, write a hypothesis below about their potential effect on host parasite richness.
2. Using some of the above variables, create 5 potential generalized linear models of parasite richness. Describe the terms for each model below. For each model, write out which predictor relationships were significant in what direction.

*Ex. Model A: Parasite Richness ~ Host Body Mass + Host Fur length*

*In my model, Host body mass was positively associated with parasite richness (p=0.00067), while host fur length showed no relationship with parasite richness (p=0.345).*

1. Which of your 5 models is best supported by the available data? Present all the information that led you to this conclusion below, and explain how you chose between models.

1. Now, create 3 new models only looking to predict parasite richness of ONE of the three major mammal groups in our data, ungulates, primates, or carnivores. Do you think that any of the predictors might be different between these groups and mammals as a whole? Why or why not? Do find evidence of a difference?
2. I’ve also provided data for two mystery hosts as part of the lab materials. How many parasite species do you think each mystery host supports? Is there any particular reason you think your estimate might be more or less accurate?
3. Choose one of the predictor variables you included in your best fitting model. Find a primary source that looks for a relationship between that predictor and parasite species richness. In a few sentences, describe the main findings of that paper. Do their results agree or disagree with your analyses? (Hint: If you’re not sure where to start, [google scholar](https://scholar.google.com) and [web of science](https://www.webofscience.com/wos/woscc/basic-search) are both good places to start looking for primary lit).

Citations:

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