1. Introduction:
   1. Predators play crucial roles in regulating prey populations and this can have widespread effects the way ecosystems function (Lafferty and Heithouse TREE 2018).
      1. Traditional models of predator prey interactions assume the strength of species interactions is constant across time and space.
      2. *Define interactions strength and how the functional response can be used as a measure of interaction strength, here?.*
      3. But interspecific interaction strengths can be dynamic. And can vary due to:
         1. Individual variation in metabolic rates
         2. Prey preference
         3. Predators interacting with prey differently in different habitats
         4. Ontogenetic diet shifts
         5. Stochasticity in recruitment or mortality (Navarette and Berlowe Eco Letters)
         6. OR with body size
   2. While scientists have long understood that body size is a strong predictor of metabolic rates and the ecological role of organisms, only recently have researchers begun to explore how body size can alter the interaction strength of predators and prey.
      1. Theoretical work has shown that allometric scaling of population parameters, including the functional response, can alter the strength of trophic cascades.
      2. However, more recent work has shown that the ratio of predator: prey body size is correlated with interaction strength, and that this relationship is non-linear.
   3. A lot of effort has focused on how body size can drive shifts in interaction strengths of predators and prey.
      1. Recent work has that body size ratios, temperature, and habitat type are important predictors
   4. However, as outstanding question is