Meeting with Dan March 25, 2020

Methodological

Descriptive

Entirely conceptually food web driven

May be able to do a combo of descriptive with some other aspects (sprinking in) food web ideas that it is not just a diet study

Predators

Generalists vs. specialists

Predator traits?

Foraging modes?

Assemble dataset of prey traits from prey IDs collected from guts

Max body size

Other prey traits??

Defense, locomotion, trophic position??

Interaction strength

How many individuals have a diet item in their diet?

Prey specificity – phylogenetic relatedness? Have people done this type of work with species interactions??

For each species? For each individual?

At the individual level – be able to estimate some kind of mean and variance

Capitalize on individual-level variation?

Individual behavioural syndromes, etc. exploring this individual-level to behavior, etc.

Beta diversity and turnover between communities.

Same richness, different composition

Nestedness

Turnover

Dan thinks this idea I’ve had is a good idea:

Size-based food webs with “stages”

Has a model with something like

Response:

Prey richness (some metric of prey diversity)

“interaction strength” type metrics (ie. Prey commonness in predator populations)

Predictors: predator body size, predator identity, predator foraging mode, prey traits from the literature??

What is the most interesting response in this type of framework

Metric of phylogenetic breadth for each predator individual, prey richness

Is individual diet (composition, breadth, etc) determined

Predator body size, predator identity, predator traits (?)

Even if these give different answers, that is also super interesting methodologically.

Richness might have a different outcome than thinking about the phologeny OR the community composition differences.

Multi-level

Predator species

Predator individuals within species.

If you look at predator species then if you look at individuals

Population – generalists

Could have a lot of individual specialists

Could have a lot of individual generalists

**Analyses**

*Big picture descriptive*

Links: Number of diet per predator species

Links: Number of diet per predator individual

Links: Captured diet versus predicted total diet richness

Links: Interaction strengths distribution

Links: Identity of diet items based on taxonomy, trophic position, etc.

*Big picture analyses*

Nodes: Is there stage structure within each species?

Link distribution: Is interaction strength across species predicted by anything? (predator-prey body size ratios, ideally prey abundance with food web data, but yeah, predator feeding mode, predator habitat generality (from my data, but would be better with food web data), prey trophic position)

Trophic position: is trophic position from stable isotopes matched to trophic position from diet items?

*Literature-based analysis*

Links: Number of links predicted to be similar via other methods in similar systems?

Links: Identity of links predicted to be similar via other methods in similar systems?  
Nodes: Lack of stage structure?