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I didn't work with other students.

ECO 602 – Week 6 Reading Questions

Readings

- Bolker ch 1: Introduction and Background
    - Read section 1.4: Frameworks for Statistical Inference.
    - Focus your attention on 1.4.1
- McGarigal Ch 6a, 6b, 6c

Q1 (3 pts.): In a short paragraph, describe a baseline scenario regarding seed predation. At the end, state the null hypothesis for seed predation.

The baseline scenario involves two species of seeds which are available to seed predators. One seed species (pol) is much smaller than the second seed species (psd). In this scenario, there are 3.5 times the number of psd seeds as pol seeds available to predators. We might expect there to be differences in seed predation based on the abundance of each seed or the size of the seed. A larger seed might provide a better source of food compared to the effort to collect the seed, however there could be seed predators that aren't able to pick up and consume such a large seed. The smaller seeds could be easier for some seed predators to pick up and consume. If there is diversity in the local seed predators and their seed preferences, we might expect consumption to be roughly equivalent for the two species of seeds. The null hypothesis for this scenario is that there is no significant difference in the proportion of seeds of each species that disappeared from the station.

Q2 (3 pts.): Paste the R code you used to complete the table and calculate the rates.

rm(list = ls())

pol_n_predation = 26
pol_n_no_predation = 184
pol_n_total = 210
pol_predation_rate = pol_n_predation/pol_n_total

psd_n_predation = 25
psd_n_no_predation = 706
psd_n_total = 731
psd_predation_rate = psd_n_predation/psd_n_total

Q3 (3 pts.): Show your table with the missing values filled in.

#Create a table of my seed data

Definition of vectors

```
species <- c("Polyscias fulva (pol)", "Pseudospondias microcarpa (psd)")
taken <- c(26, 25)
not_taken <- c(184, 706)
n_total <- c(taken + not_taken)
predation_rate <- c(taken/n_total)

# Create a data frame from the vectors
seed_predation <- data.frame(species, taken, not_taken, n_total, predation_rate)
seed_predation

#table(seed_predation)
#Note: I want to figure out how to make a nicer table of these data...using the table function like this
isn't working
```

I used the code above to create the data frame that I needed to make this table in R. However, I know that simply printing out the data frame and taking a screen shot isn't best practice. Would you please point me in the direction of a resource to help me learn how to make a simple table in R? I tried to use the table() function and couldn't get it to work.

species <chr>	taken <dbl>	not_taken <dbl>	n_total <dbl>	predation_rate <dbl>
Polyscias fulva (pol)	26	184	210	0.12380952
Pseudospondias microcarpa (psd)	25	706	731	0.03419973

2 rows

Q4 (2 pts.): Report the seed ratio of seed predation proportions and show the R code you used to do the calculation.

ratio_predation = pol_predation_rate/psd_predation_rate

ratio_predation

#Seed ratio = 3.62019