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Week 6 Reading Questions

I did not work with any other students.

**Q1.** A scenario for seed predation could be that there are two different seeds with many similar qualities (perhaps shape, germination strategy, and color) but a few slightly different qualities (perhaps average mass, time of availability, etc.). Scientists want to know if there is a difference between the predation rates of these two seeds, perhaps to make further hypotheses about seed predator diets or seed evolutionary strategies. The null hypothesis would be that there is no variation in seed predation rates among species.

**Q2.**

*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*

*print(*

*paste0(*

*"The seed predation rate for Polyscias fulva is: ",*

*round(pol\_predation\_rate, digits = 3)))*

*print(*

*paste0(*

*"The seed predation rate for Pseudospondias microcarpa is: ",*

*round(psd\_predation\_rate, digits = 3)))*

**Q3.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **species** | **any taken** | **None taken** | **N** | **Predation rate** |
| Polyscias fulva (pol) | 26 | 184 | 210 | .124 |
| Pseudospondias microcarpa (psd) | 25 | 706 | 731 | .034 |

**Q4.** The ratio of seed predation proportions is 3.62 *Polyscias fulva/Pseudospondias macrocarpa.* This basically means the data suggests that *Polyscias fulva* seeds are 3.62x more likely to be taken than *Pseudospondias microcarpa* seeds. The rate that is in the denominator technically doesn’t make a difference as long as you are clear in your units, but it makes more intuitive sense if the smaller number is in the denominator. The code for calculating this is here (following on the code pasted above:

*overall\_prop = (pol\_n\_predation + psd\_n\_predation)/(pol\_n\_total + psd\_n\_total)*

*ratioprop = pol\_predation\_rate/psd\_predation\_rate*