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Analysis of Environmental Data

Week 6 Reading Questions

1. A bird watcher spreads seeds across their yard to attract birds to their property. They want to know if the birds that visit their yard have a preference for one of the two types of seeds that they typically use. The bird watcher spreads seeds from two different species of plants across their yard, Polyscias fulva (pol) and Pseudospondias microcarpa (psd), and records the number of seeds that are either taken or not-taken for each seed species. The null hypothesis is that the birds show no preference for either seed species (the predation rates between the two species of seeds are the same).
2. rm(list = ls())

pol\_n\_predation = 26

pol\_n\_no\_predation = 184

pol\_n\_total = pol\_n\_predation+pol\_n\_no\_predation

pol\_predation\_rate = pol\_n\_predation/pol\_n\_total

psd\_n\_predation = 25

psd\_n\_no\_predation = 706

psd\_n\_total = psd\_n\_predation+psd\_n\_no\_predation

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))

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Species** | **Any taken** | **None taken** | **N** | **Predation rate** |
| Polyscias fulva (pol) | 26 | 184 | 210 | 0.124 |
| Pseudospondias microcarpa (psd) | 25 | 706 | 731 | 0.034 |

3.

4. pol\_n\_predation = 26

pol\_n\_no\_predation = 184

pol\_n\_total = pol\_n\_predation+pol\_n\_no\_predation

pol\_predation\_rate = pol\_n\_predation/pol\_n\_total

psd\_n\_predation = 25

psd\_n\_no\_predation = 706

psd\_n\_total = psd\_n\_predation+psd\_n\_no\_predation

psd\_predation\_rate = psd\_n\_predation/psd\_n\_total

seed\_ratio= pol\_predation\_rate/psd\_predation\_rate

seed\_ratio