BOOK ERRATA –
Foundational and Applied Statistics for Biologists using R
2nd printing, 1st edition
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Chapter 1
1. Page 19, Question 10. reduction ad absurdum

Chapter 3
1. Page 70, Example 3.7. Recently, 88-120 goats were randomly sampled from the GYE…
2. Pg. 93. The mean of a geometric distribution is \( (1 - \pi) / \pi \), not \( 1 / \pi \) (Thanks to Dr. Brian Parker, New York University)
   … for negative binomial dispersion parameter \( m-k \) and mean \( k m \).
4. Pg. 98, Q. 13 part e.
   \[
   \text{Lambda.hat} = \frac{\text{mean(Leaf.obs)}}{\text{mean(rep(Mites.per.leaf, Leaf.obs))}}
   \]

Chapter 4
1. Pg. 144. Q. 8. In the table, \( X \) should be replaced with \( x \).
2. Pg. 146. Q. 30. To the end of the paragraph describing the problem, the following statement should be added: “Assume \( J \) and \( B \) are independent.”

Chapter 5
1. Pg. 193. Q. 1. To the end of the paragraph describing the problem, the following statement should be added: “Assume \( J \) and \( B \) are independent.”
2. Pg. 194. Q. 7. To the end of the sentence describing the problem, the following statement should be added: “Assume random variables are independent and that \( H_0 \) is true for (d) and (e).”

Chapter 6
1. Page 216. An error occurs in the worked example for MSE and \( t^* \).
   The example currently reads:
   \[
   t^* = \frac{(0.114 - 0.099) - 0}{0.0171 \sqrt{2 / 34}} = 2.4607
   \]
It should be changed to read:

\[ r^* = \frac{(0.114 - 0.099) - 0}{0.0171 \sqrt{3/34}} = 2.4607 \]

2. Page 223. She wants to use \( \alpha = 0.05 \) and \( \beta = 1 - 0.8. \)

3. Page 223.
   Replace:
   \[
   n = \frac{(1.645 - 0.842)^2 \times 100}{(-5 - 0)^2} = 24.7
   \]
   With:
   \[
   n = \frac{(1.645 + 0.842)^2 \times 100}{(-5 - 0)^2} = 24.7
   \]

   In a lower tailed test, the test statistic \( W^* \) will also be \( W_1. \)

5. Page 243, Question 9. By typing `menu ()`

Chapter 7

1. Page 261. …area is \{61.59, 94.34\}
2. Page 281. …block randomize what you can randomize block what you cannot
4. Page 291. Question 12b and 12c. Change the order of these questions.
5. Page 291. Question 12d. Replace the symbol \( S_{\tau m} \) with \( \hat{S}_{\tau m} \)
6. Page 291. Question 12e. Replace the symbol \( S_{\tau} \) with \( \hat{S}_{\tau} \)

Chapter 8

1. Page 306. Missing right parenthesis in code:

```
with(crab.weight, cor.test(gill.wt, body.wt, method = "pearson")
```

Chapter 9

1. Page 346. Eq. 9.39. Replace \( TSS \) with \( SSTO \) in denominators of ratios.
   That is, replace:
   \[
   R^2 = 1 - \frac{SSE}{TSS} = \frac{SSR}{TSS}
   \]
   With
\[ R^2 = 1 - \frac{SSE}{SSTO} = \frac{SSR}{SSTO} \]

2. Page 403. 1st sentence of section 9.22. We calculate estimates of parameters for a …

   bc. Adjust the slider widgets, or simply click Refresh repeatedly (> 30 times). Are \( MSE \) and \( MSR \) consistently greater than or less than \( E(MSE) \) and \( E(MSR) \). Why?

Chapter 10

1. Page 500. Question 16a. Analyze the data correctly (with block in hybrid as a random effect) using aov.

2. Page 500. Question 16c. Reanalyze the data, and repeat the hypothesis tests using lmer.
   Define block and hybrid as random effects.

Appendices

1. Page 549, A.4 Set Theory and Probability \( P(A) - 1 = 1 - P(A) = P(A') \)