

## ***Biol. 254 Project #3 - TESTING FOR RELATIONSHIPS***

Name \_\_\_\_\_ Section \_\_\_\_\_

A. The first part of this assignment (20 pts) is to select a basic science primary literature paper that contains a statistical test for relationships between two or more variables or frequencies measured on non-commercial, non-domestic, non-human animals in the phylum Arthropoda or Mollusca. Read the article, chose one test for relationships, and answer the questions below. The null hypothesis and the value of the test statistic may not always be explicitly stated. There are many statistical tests used in the literature that you do not know. Therefore, if you do not understand the analysis you found and cannot find the items below, chances are that the test is not one with which you are familiar. Enter the data for your paper on the “Reserve Paper” list. Papers are reserved on a first-come, first-serve basis.

1. From your paper, select two variables or frequencies for which there is a test of relationships. On the back of this page, (1) identify the overall goal of the research, and (2) explain why the test was important to the overall goal. (2 pts)

2. Fill in blanks:

- a. variable names (1 pt) \_\_\_\_\_
- b. measurement scales (1 pt) \_\_\_\_\_
- c. variable types (1 pt) \_\_\_\_\_
- d. measurement units (if applicable, 1 pt) \_\_\_\_\_

3. State null hypothesis (4 pts) \_\_\_\_\_

4. Identify and state value (if available) of test statistic (2 pts) \_\_\_\_\_

5. State probability (2 pts) \_\_\_\_\_

6. Was  $H_0$  rejected? (2 pts) \_\_\_\_\_

7. State conclusion of test (2 pts) \_\_\_\_\_

8. Support your answers with a PDF of the Title page and the pages of Results section that contain the results of the test of relationships you reported; do not attach the entire article. On the copy, highlight or circle your answers to questions A2a, A2d, and A5, but do not mark anything else. (2 pts)

B. The second part of this assignment (20 pts) is to pose a hypothesis on the relationship between two variables or frequencies on non-commercial, non-domestic, non-human animals in the phylum Arthropoda or Mollusca ([click here for ideas](#)). You will then personally collect appropriate data and test the hypothesis (fall semester students: collect your specimens early in the semester). Minimum sample size is 20. You must design your project and analyze your data without assistance from others; however, you may enlist help from others to physically help you collect specimens. Enter your variables on the "Reserve Paper" list. Papers are reserved on a first-come, first-serve basis.

1. Describe how you measured each variable. (1 pt)

2. Fill out protocol sheet (18 pts)

3. Put your study specimens in a plastic refrigerator bag, put your name on the bag, and turn it in with your paper materials. Failure to turn in your specimens will result in a 10 point deduction.

4. Staple your materials together in this order: (1) project pages; (2) primary literature paper; (3) protocol sheet; (4) computer output, and (5) SYSTAT data file. Place in homework box in S161. (1 pt)

**LATE ASSIGNMENTS WILL NOT BE ACCEPTED**