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**Summary:** Task-size associations are commonly observed among animals, and it is thought that task specialization will increase the efficiency of the colony. 10 species of ants were studied in which head size was measured and species were recorded. Species were assigned a task (HC, NB or PF) based on what they were doing at the time they were selected. The 10 species were divided into two different groups: mound-building and subterranean. A boxplot, chi-squared test, and a multinomial regression was used to evaluate the data. It was determined that subterranean groups did not have a strong relationship between head width and task association when compared to mound-building groups.

**General Comments:**

Your paper is quite long. I have heard Dr. Mitchell state that it shouldn’t be more than 5 pages. Without your figures, title page and works cited yours is a strong 7 pages. I would go and ask him about the length of your paper, I do not want you to lose points for something like that 😊. It seems like your topic could be evolutionary as selection could favor task specialization, however, I think there is a lot of detail lacking around this subject. I think you only addressed this topic twice- once in the abstract and once in the discussion. I think you need more detail surrounding why selection favors task specialization, if this is the same for all species, and what are the repercussions if task specialization is not present (like are the ants just unsuccessful and inefficient, resulting in death? Then does this cause extinction?). How does selection favoring task specialization influence “if you make more copies of yourself, there is more of you”?

**Introduction:**

I think your introduction does a great job of breaking down what the paper is about. I think that some of your sentences are a little wordy, but otherwise it is great (and that is an easy fix).

**Methods:**

I would probably mention that your data was collected from another paper. You cited the source in the *Collection* paragraph, but there are no citations for *Head Measurements* or *Identifying Species.* I would probably state what version of R studio is being used to generate all your statistical tests and plots.

**Results:**

I think you results section is great. I think the boxplots really allowed you to see the differences in each species examined between size-task association. I also think that the multinomial regression and AIC were good tests to perform based on your data. It is clear you have a great understanding of R studio and that you fully understand the parameters and meaning of the tests that you performed. Great work!

**Discussion:**

Was there anything evolutionary determined from your study? You mentioned in the abstract that selection could favor species with task specialization as it increases colony efficiency, but that topic is never addressed again.

**Specific Comments:**

* In your results you mention the ggeffects function was used in R to predict the response level of each task. I believe that this belongs in your methods rather than your results section.
* Do p-values mean there is a significant difference between two variables?
* There were no grammatical errors noted. Just be careful of lengthy sentences and wordiness! If Dr. Mitchell says you need to shorten your paper, I really think you could get to 5 pages with just revising your sentences.

Great draft! I am very impressed with how well you understood the statistical tests that you performed. We’ve only got a few weeks left until summer. Keep up the hard work!