

# **Ecol 483/583 – Herpetology**

## **Lab Report Guide**

### **Spring 2010**

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#### **Lab report description**

You will be assigned one lab report, **due on April 16**. The lab report will be shorter than the term paper and will be based on data that the class collects during our field trip to the Rillito River. We will be measuring predation intensity on differently shaped lizards. We will use plastic model lizards, some stocky like a horned lizard, others more gracile like a sand lizard. Predators will discover and hopefully attach our models, leaving marks on them. These marks will be the measure of predation intensity. The lab report will take the form of a scientific paper, like one that you would find published in a peer-reviewed journal, such as *Journal of Herpetology*. By this stage of the semester, you have hopefully read a number of such journal articles, so should be at least somewhat familiar with the format.

In writing your lab report, you have a number of documents available to help you. This document is one. Also, refer to the formatting instructions for the course to find out how to format this assignment (formatting directions are not given below, but must be followed - see the formatting instructions!). You can also refer to articles published in peer reviewed journals to get a sense of the style and language. The assignment done earlier this semester, analyzing lizard behavioral data was designed to help guide you through the process of hypothesis formulation, data analysis, and presenting of results. All of those skills will be applied for this assignment, so referring back to that assignment is a good idea. Finally, if you have further questions and uncertainties, talk to your instructors.

#### **Lab report expectations**

Format the lab report following the formatting instructions, available on the course website. The lab report should have a title page and a literature cited section. The body of the report should have six main sections: **Introduction, Methods, Results, Discussion, Acknowledgements, and Literature Cited**. You can have subsections if you like, provided that they are appropriate. What should be contained in each of these sections is outlined below. The lab report should be between 5 and 8 pages double spaced, excluding the title page.

**Introduction:** This is where you introduce the topic of your paper, giving background information relevant to what you are studying. Set the stage for your study. Start off broadly and as you write, focus in on more specific aspects of your study. If you are writing about measuring predation intensity on lizards, you should cite some papers that talk about predation in general. Also talk about what lizards you are studying/modeling and what kinds of predators you might expect to be present. Maybe address why yours is a good system for studying your question (why these lizards?). The last paragraph of your introduction should **briefly** state what you are specifically investigating. Throughout the introduction, you should cite various publications. You are trying to give the reader an idea of what has already been done.

**Methods:** In this section you state what you did. You have to be very specific because the point of this section is to allow the reader to go out and redo your study - that's how much detail you should include. Give details about the study site. How big is it? Where is it? What kind of habitat(s) does it have? Why was it chosen? Also talk about how the models were made, what they were covered with, how many models there were, where they got put out and for how long... How were data collected from the models? Describe the statistical methods that you used to test your hypotheses. Be concise but detailed. You need not cite many references, but if there are publications that used the same approach as you did, cite them. Diagrams of your experimental design and maps of your study site are often good to include.

**Results:** This tends to be a short section with few or no literature citations. In the results, you state simply what you found without any interpretation what the results mean. This is where you report the results of your statistical analyses. Include tables and figures, as appropriate, to present your results in a maximally understandable and efficient way. If various numbers appear in a table, do not restate them in the text; simply refer to the table.

**Discussion:** In this section you can interpret your results and put them into the context of the published literature. In the discussion, you should again cite more publications. Talk about how your results can/should be interpreted biologically. Do your results support your original hypotheses? How do your findings compare with other published studies? Why might they disagree? In the discussion, you should also address shortcomings of your study, sources of error, and future directions. We expect you to comment on each of the items in the previous sentence, in addition to comparing your findings to those in the literature. You may end this section with a brief paragraph on the broader impacts of your findings – how they may relate to our understanding of the field, conservation of particular species/habitats, or even population management.

**Acknowledgements:** This is a very short section (a couple sentences to a short paragraph). Here you thank people that helped you with the study, but aren't authors. Who helped you collect the data? Who compiled the data? Did anyone give you advice on how to analyze the data or help interpret those data? This is also where you can put information about permits to do the work.

**Literature cited:** Make sure that you give all the information for all of the sources that you cite in your lab report. Follow the course formatting instructions. Double check to make sure you didn't miss any cited papers and that you don't have any extra ones here. For a lab report like this, you should cite at least 8 peer-reviewed publications. More may be necessary to support what you write.

## Grading Rubric

Following is the grading rubric that will be used to grade the lab report. The rubric should help you consider how much emphasis the instructors will put on each aspect of the assignment.

### Lab Report | 75 points | Due April 16

<i>Introduction</i>	15
- Thorough, relevant, well cited, interesting	5
- Was appropriate and sufficient background info included?	5
- Was the topic/hypothesis clearly stated and justified?	5
<i>Methods</i>	10
- Are they clear and well explained?	5
- Are specifics of localities, procedures, statistics given?	5
<i>Results</i>	12
- Are the reported results appropriate and complete?	6
- Are they clearly reported, with good figures and tables?	6
<i>Discussion</i>	18
- Are the results put in context of the original question and literature?	6
- Are the results interpreted correctly?	6
- Are possible future directions/improvements discussed?	3
- Are shortcomings or sources of error discussed?	3
<i>Literature cited</i>	5
- Is it relevant and thorough/complete?	3
- Is it formatted correctly?	2
<i>General</i>	15
- Organization	3
- Spelling, grammar and sentence structure	3
- Formatted correctly, following instructions	5
- Overall quality and impressiveness	4