

Assignment #1 — Due 7 February 2014

First (!), explore the literature, then choose a topic and assemble a bibliography of relevant papers.

Goal: Become familiar with some of the primary literature in behavioral ecology by exploring recent literature in Web of Science: <http://isiknowledge.com/>

Format:

- a brief paragraph describing your topic (just a few sentences)
- 25-40+ references – just a list of papers in any reasonable bibliographic format
- submit via e-mail as a .doc file (preferred)

Notes:

- you do not have to read these papers before 10 Feb
- you may subsequently refine and/or change your topic (completely if you wish) and/or add additional references while deleting others

Assignment #2 — Due 21 March 2014

Explore the literature some more (!), read the relevant papers, and write a brief *TREE*-style review on the topic of your choice!

Goal: become an “expert” on one specific topic in behavioral ecology and **synthesize** recent research on that topic

Ideal process:

- explore the literature
- pick a general topic
- explore the literature some more
- refine topic
- read and take notes on relevant references
- repeat steps 3-5 several times
- construct outline
- write review paper

Format:

- relatively brief review, similar to the typical paper in *TREE (Trends in Ecology and Evolution)*
- see course web page for list of examples of behavioral reviews from *TREE*
- see course web page for example paper from previous BI508 student
- review recent work relevant to a *specific* question in behavioral ecology
- examples of topics that are appropriate but way too broad: “sexual selection”, “optimal foraging”, “kin selection”, “cooperation and conflict”, “alternative reproductive behaviors”
- should define a more specific question within one of the general topics considered in behavioral ecology
- provide necessary background on organisms and such, but to the extent possible emphasize good behavioral, experimental studies in your review
- in most cases, you should consider relevant research on a variety of organisms
- in reviewing individual studies, provide at least a brief description of the study (was it experimental, what was manipulated, measured, etc. – this can often be accomplished in a single sentence) and not just the conclusion of the study
- in your conclusion, identify needs for future research
- submit via Turnitin.com as a MS Word document

References

- The name-date citation format should be used, with author(s) last name(s) and date cited parenthetically in the text and references listed in alphabetical order in a References Cited section at the end of the paper. Formatting of references should follow as closely as possible that found in the journal *Behavioral Ecology*
- If there are two authors, use (Smith & Jones 2004); if there are three or more, use (Smith *et al.* 2005), but list all the authors in the References Cited section
- *et al.* is short for *et alia* (“and others”; the masculine is *et alii* and the feminine is *et aliae*; *et alia* is the neuter plural) – it is Latin and therefore should be italicized

Design an experiment to test a specific hypothesis in behavioral ecology.

Your paper will take the form of a research proposal (except that you will not be asked to demonstrate past accomplishments or the infrastructure to actually pull it off). The agency to which you are applying limits the proposal (excluding references and title page) to a maximum of **8 pages of double-spaced, 12 pt text with 1 inch margins all around**. (Any tables or figures also must be incorporated within the 8 pages).

The experiment should be realistic: i.e., feasible and within the realm of possibility in terms of cost and duration. Nonetheless, assume that you will have an ample budget for your research – don't let financial limitations impinge on your aspirations and creativity.

The experiment should (to the best of your knowledge) advance research in behavioral ecology beyond what has already been done. At a minimum, you should extend a particular kind of study to a new species (if you take this route, it should be a species that will lend some important new insight and you should explain why this is the case).

Goals:

- Think about the practical details of doing research
- Learn something about experimental design

Format:

Introduction to general and specific issues to be addressed (keep it focussed)

- results of previous research and identification of research needs
- rationale/logic behind your experiment
- identify study animal and study site (may be captive or natural)
- specific hypotheses and predictions

Experimental Design

- overall logic of experimental design – treatments and control
- methods to be employed (be as specific as possible)
- data to be collected (be as specific as possible)
 - response variables to be measured
- sample size and statistical comparisons: what specific measures will be compared
- what are the possible outcomes of the experiment and how would they be interpreted in relation to the hypotheses being tested

References

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