Evolution BIOL 4510/5450 Journal Club Activity


1. Define and explain the following terms and concepts as they apply to this paper.
   - Melanism
   - Cryptic coloration
   - Ecological genetics
   - Selective agent
   - Dominant allele
   - Selective sweep
   - Mark – recapture
   - Resting site
   - Interpolation
   - Randomization
   - Heterogeneity
   - Null hypothesis
   - Kettlewell
   - Mendelian locus
   - Bats
   - Typicals
   - Contingency
   - Supplementary material
2. What animals were used in this study and how were they obtained and maintained for these experiments? Why were these particular animals selected for this study?

3. What parameters were measured and analyzed in this study? Be prepared to explain how Fig. 1 displays these parameters.

4. Explain the use and/or purpose of the following in this study.
   - Netting 'sleeves'
   - Binoculars
   - Branches
   - Light traps
   - Naturalistic densities
   - Eclosion
   - Probability
   - Non-selective predation

5. For the predation experiment, answer the following questions:
   (1) The specific goal or question that was addressed:
   (2) The basic experimental design (what was manipulated and what was measured to answer the question):
   (3) The independent variables that were manipulated and their units of measurement, where applicable:
(4) The dependent variables that were measured in response to the manipulations and their units of measurement:

(5) The main take home message or finding associated with the following:
   - Fig. 1:
   - Table 2:

(Hint: Experimental results are often (but not always) plotted in terms of how the dependent variable (as plotted on the vertical or y-axis) depends on the independent variable (as plotted on the horizontal or x-axis).

6. What was the overall objective of this study?

7. How did the experimental design take into account the criticisms leveled at the original Kettlewell experiment?

8. What did you learn from reading this paper about the natural resting sites of moths? What steps did the investigators take to mimic the effects of the natural habitat on site choice?