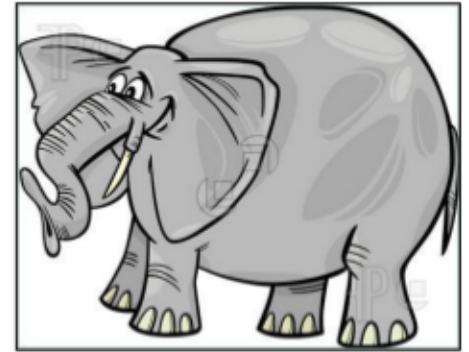


Methods in Experimental Ecology II (PCB 6468)

Exercise 8 – Linear Mixed Models



In her last trip to Africa a UCF researcher evaluated allometric relationships for elephants. She collected information on body length and body mass for 10 elephants in 20 separate populations.

1. Use the `Exercise8_data.R` script provided in the class website to generate a sample `[elephants]` following the description above (you only need to run it once and then keep the data as a fixed input for your analyses).
2. State *your* scientific hypothesis.
3. Inspect and plot *your* data (publication quality).
4. Select and justify a statistical model to test *your* hypothesis using the data.
5. Verify the assumptions of the model *you* selected using plots.
6. Plot *your* predicted model with 95% CI (publication quality).
7. Compare *your* results to, at least, another student in class.
8. Interpret *your* results.

Hint: *start with a simpler model and as you add more complex parameterizations justify why you think the changes are appropriate in this case, think back to what we did in this week's demonstration.*

NOTE 1: Length was standardized to avoid having a meaningless intercept.

NOTE 2: Please submit your paper as a single word document. Remember to include your raw data and all the appropriate R code as appendices at the end.