Methods in Experimental Ecology II (PCB 6468)
Exercise 3 - Logistic Regression
Due February 5, 2016

Somebody used camera traps to evaluate the presence/absence of native rodents to study the effect of percentage of fragment area covered in shrubs on rodent incidence in three distinct populations in France.

In each population [`pop`], the researchers set up ten circular plots, where they measured shrub coverage [`shrub`] and setup `N` camera traps to record rodent presence (the result, `C`, indicates how many of the traps recorded rodent presence, not their abundance, as individual identity could not be determined).

1. Use the `Exercise3_data.R` script provided in the class website to generate a sample [`rodents`] following the description above (you only need to run it once and then keep the data as a fixed input for your analyses).,

2. Choose the most appropriate and informative model to analyze the data and present its coefficient estimates, significance values and confidence intervals.

3. Plot your results in an informative manner.

4. Calculate *p* (the predicted probability of rodent presence) for an area with 50% shrub cover in each of the three locations.

5. Evaluate your chosen model with a Bayesian approach (uninformed priors) and compare the results.

6. Interpret the biological significance of these results.

NOTE: 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.