Today

- Miscellaneous
  - portfolio checklist
  - Marktext application (withdraw my recommendation; silent edits)
- Diagnostics
  - ants example

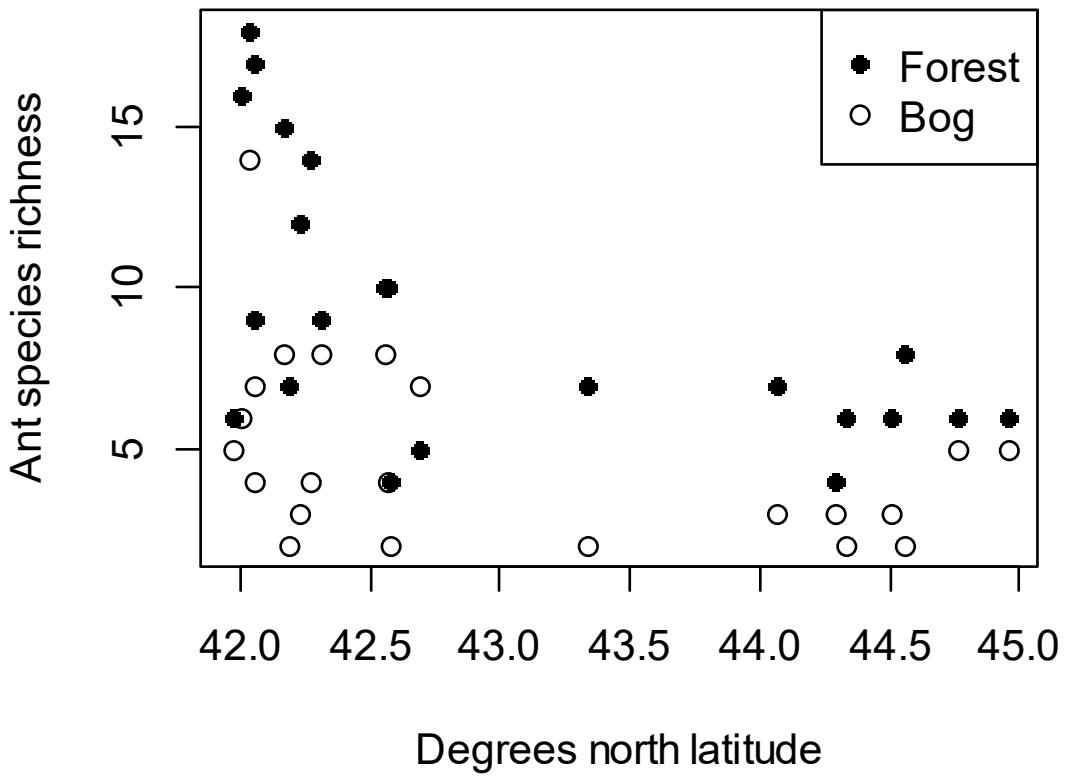
Diagnostics: model checking

- Systematic departures of the process (biological) model from the data
- Poor error distribution
- Mistakes in data
- Outliers
- Influential data points

Tools

- Plot the fitted model with the data
- Residuals vs fitted values
- QQ plot, histogram of residuals
- Leave one out (LOO) influence algorithm
- What should these diagnostics look like (on average and variation)?
  - make plots of them from simulated data of the fitted model

Ants: diagnostics



Write model
Assumptions?

Factor

```
ant$habitat <- factor(ant$habitat)

print(ant$habitat)

 [1] forest forest forest forest forest ...
[14] forest forest forest forest forest ...
[27] bog    bog    bog    bog    bog    bog ...
[40] bog    bog    bog    bog    bog
Levels: bog forest
```

R data structure for categorical variables; ?factor
Attribute: levels (sorted alphabetically by default)