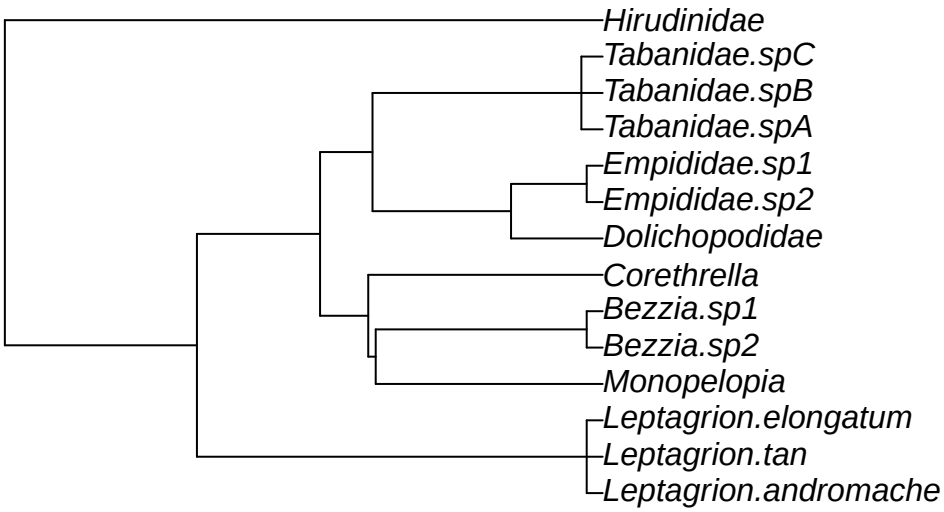
Appendix

Andrew MacDonald

predator phylogeny

```
read.tree("../data/reorganized_data/predator_tree_time.newick") %>% plot
```



Prey community composition

Densities of prey species used in the experiment.

Species	density
Chironomus detriticula	10
Polypedium sp. 1	4
Polypedium sp. 2	2
Psychodid sp. 1	1
Scyrtes sp. A	5
Culex spp.	4
Trentepholia sp.	1

Model comparison for distributional similarity as a function of PD

```
formulae <- c("quadratic" = "$a \\times (PD)^2 + b \\times PD + c$",
              "bellshaped" = "$peak \\times {e}^{(-1 \\times (PD)^2 / a)}$",
              "{e}^{onential" = "$b \\times {e}^{(a \\times PD)}$",
              "Sshaped" = "$\\frac{c \\times {e}^{(a \\times PD)}}{(c \\times {e}^{(a \\times PD)} + (1
              "linear" = "$a \\times x + b$",
              "constant" = "a \\times x$"
              )
```

Equation	AIC
$a \times (PD)^2 + b \times PD + c$	20.77
$a \times x + b$	21.51
$\frac{c \times e^{(a \times PD)}}{(c \times e^{(a \times PD)} + (1-c))}$	21.56
$b \times e^{(a \times PD)}$	21.92
$peak \times e^{(-1 \times (PD)^2/a)}$	21.97

Model comparison for diet similarity as a function of PD

Note: these models are weighted by the number of prey species tested

Equation	AIC
$peak \times e^{(-1 \times (PD)^2/a)}$	-787.6
$b \times e^{(a \times PD)}$	-787
$\frac{c \times e^{(a \times PD)}}{(c \times e^{(a \times PD)} + (1-c))}$	-786.9
$a \times (PD)^2 + b \times PD + c$	-786.9
$a \times x + b$	-785.1