Preregistration for BIOL548T project

01 October 2022

Data collection

Yes, we already collected the data.

Hypothesis

This project aims to address two questions qualitatively:

- Does abundance of Plethodon cinereus change between 2004 and 2019 in Bruce Peninsula National Park?
- Do abundance trends differ between the two P. cinereus colour morphs (redback and leadback)?

Some useful sources (Noël *et al.* (2007), Wiggins *et al.* (2011)).

Dependent variable

Salamander abundance is the dependent variable. To collect this metric, the number of *P. cinereus* individuals are counted in multiple plots in Bruce Peninsula National Park.

Analyses

I will qualitatively examine the effect of soil temperature (in degrees Celsius) on salamander abundance, and see if this relationship differs between the two *P. cinereus* colour morphs. I will visually examine this relationship using a scatterplot fitted with a linear model.

Outliers and exclusions

I will only exclude NA values.

Study type

This pre-registration is for a class project.

References

Noël, S., Ouellet, M., Galois, P. & Lapointe, F.-J. (2007). Impact of urban fragmentation on the genetic structure of the eastern red-backed salamander. *Conservation Genetics*, 8, 599–606.

Wiggins, P., Smith, J., Harris, R. & Minbiole, K. (2011). Gut of red-backed salamanders (plethodon cinereus) may serve as a reservoir for an antifungal cutaneous bacterium. *Journal of Herpetology*, 45, 329–332.