Modelling Zoonoses in Rodent Communities

David Redding, Greg Milne, Ana Martinez-Checa, Harry Gordon

07/06/2024

Introduction

This is the working manuscript for a study on disease modelling in rodent communities by the Infectious Disease Systems Ecology group at the British Natural History Museum.

David Simons' paper: Simons et al. (2023).

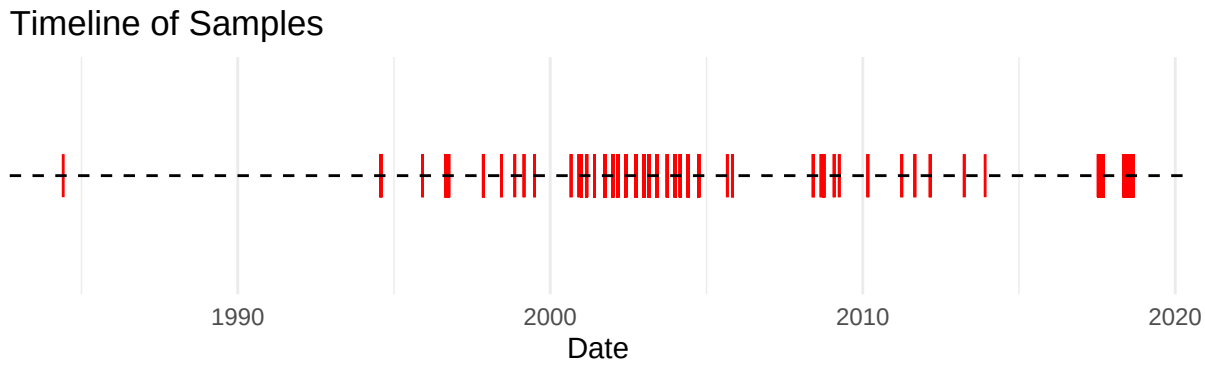
Paper on causal inference: Dee et al. (2023).

Methods

These are the methods.

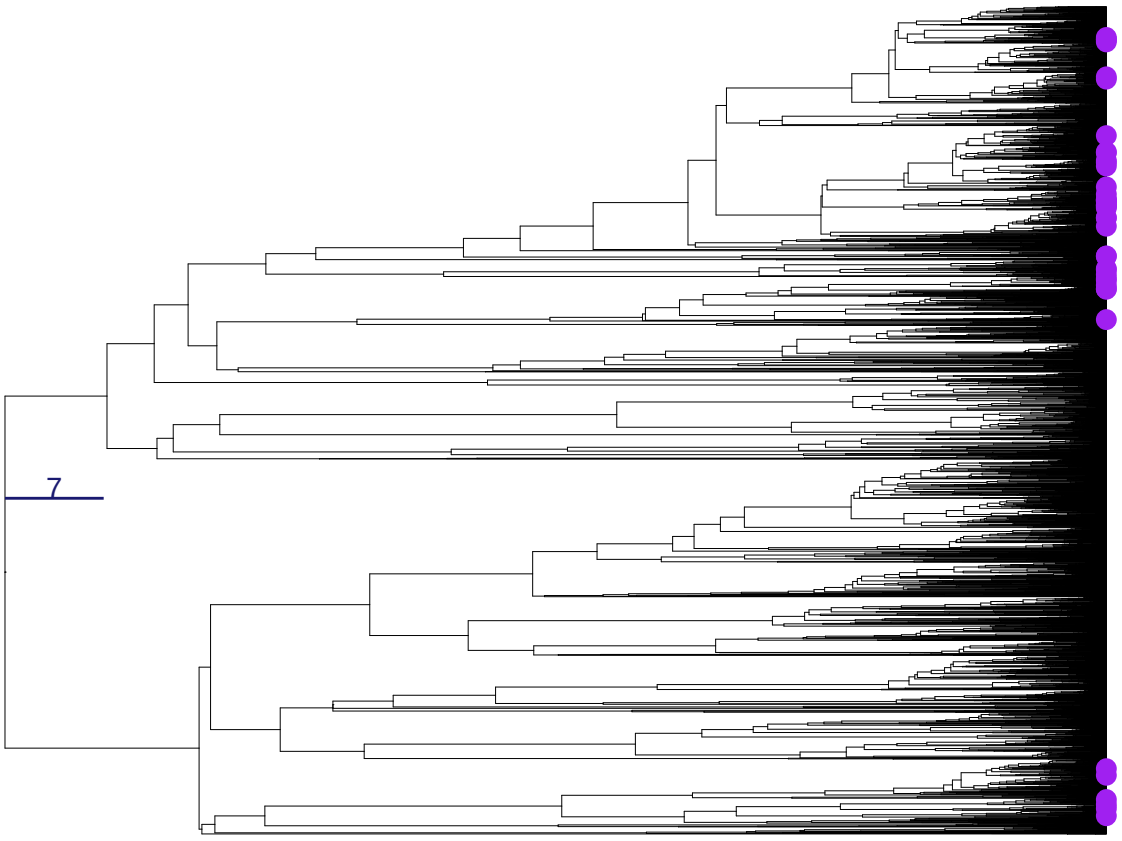
Here is a world map displaying locations of our sampled rodents:

Here is a timeline of the samples used in this analysis:



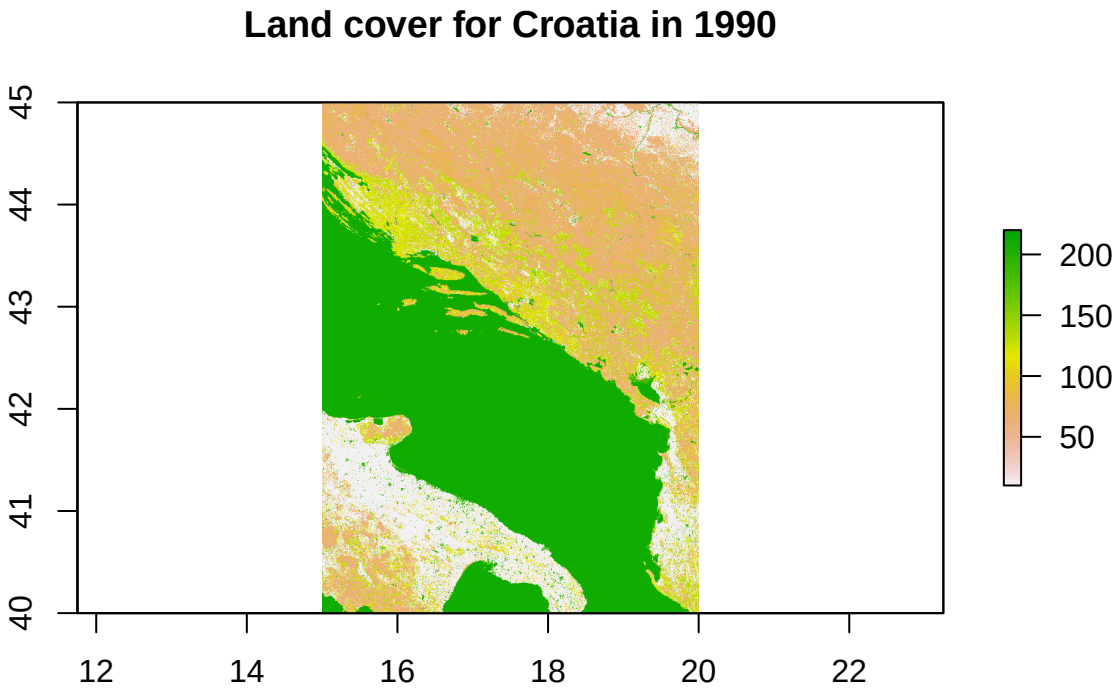
Rodent phylogeny

Here is the mammal tree with our host species higlighted



GLC database

Here is an example of a raster from the GLC database, the X and Y are Longitude and Latitude respectively.



Results

These are the results.

Discussion

This is the discussion.

References

Dee, Laura E., Paul J. Ferraro, Christopher N. Severen, Kaitlin A. Kimmel, Elizabeth T. Borer, Jarrett E. K. Byrnes, Adam Thomas Clark, et al. 2023. "Clarifying the Effect of Biodiversity on Productivity in Natural Ecosystems with Longitudinal Data and Methods for Causal Inference." Journal Article. *Nature Communications* 14 (1): 2607. https://doi.org/10.1038/s41467-023-37194-5.

Simons, David, Lauren A. Attfield, Kate E. Jones, Deborah Watson-Jones, and Richard Kock. 2023. "Rodent Trapping Studies as an Overlooked Information Source for Understanding Endemic and Novel Zoonotic Spillover." Journal Article. *PLOS Neglected Tropical Diseases* 17 (1): e0010772. https://doi.org/10.1371/journal.pntd.0010772.