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**Niche conservatism above the species level.**

**Article Summary**

This paper by Elizabeth A. Hadly et al. is a scientific paper on niche conservatism above the species level using data on generic response over the last glacial-interglacial transition. They use the proxy of geographic range size across the major climatic transition between the late Pleistocene and the late Holocene to examine changes in the realized niche of the North American mammalian genera and families. In particular, they used data on taxonomy, list of genera, list of families and geographic range size calculations and calculated the mean and variance of range size, and estimated the change in range size and rank. The constancy in relative size and rank of geographic ranges indicates that important ecological traits are conserved above the species level. Hadly et al. showed that there were range shifts and extinctions of species within the clades but a constant range size at the genus and family levels. They find that intrinsic life history traits control the niche conservatism at higher levels for the most part, while environmental factors control niche conservatism at the species level.

#### Things I liked about the paper

I like that the paper is presentable and clearly partitioned. The figures are also easy to look at and understand. The figures are also relevant to the paper and aid in the visualization of the distribution, which would otherwise be difficult to explain in words.

#### Things I did not like about the paper

I could not really understand the results section because of my lack of background in statistics so I had to just skim through this part. However I do understand the application and explanations of it in determining the important levels in the biological hierarchy where controls on niche conservatism may be most dominant.

#### Evaluate the graphs and figures (if any)

There are five figures and a table in this paper and they are all fairly simple and easy to read and understand. The first figure is the change in log10 area from late Pleistocene (LP) to late Holocene (LH) from North American genera. It shows a decrease or increase in geographic range of different genera. The second figure shows examples of LP and LH geographic range sizes for North American mammalian genera, including the smallest range and largest range expansion and contraction. The third figure is a graph of North American LP and LH generic range sizes. The graph shows a strong correlation between the generic range sizes. Next is a figure illustrating the differences in the number of species within a genus due to late-Pleistocene extinction did not significantly influence changes in geographic range rank between time intervals. This figure allows me to easily compare between the two time intervals. There is also a table that lists out all the North American mammalian genera used in their analyses.