Divide and conquer: Identifying the bioregions for various tetrapod groups

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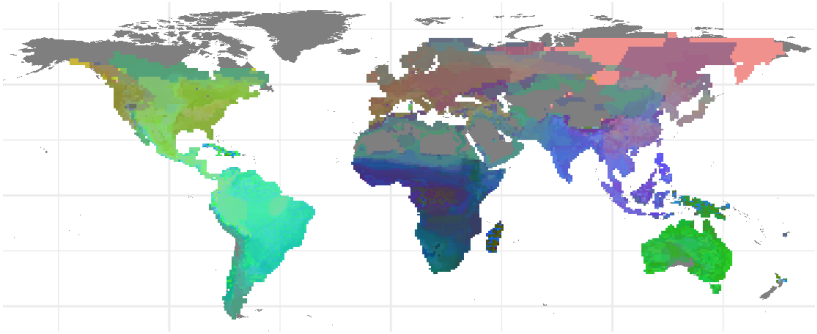

Alfred Russel Wallace divided the world into six distinct Zoogeographical regions based on the similarity of their biodiversity, and the limits of species distribution between them. The latest completion of reptile distribution maps gave me a chance to examine the placment and number of zoogeographical regions that fit squamates, and how they compare to a revisited division of the other tetrapod groups and their subgroups. I used hyrarchical clustering methods, together with novel methods for identifying the best number of clusters in a phylogenetic betadiversity matrix. I found that the number of clusters varies between tetrapod groups, and between subgroups within each group. This indicates that there is no consensus on to the number of zoogeographical regions. Moreover, I found that different environmental characteristics drive the variation in phylogenetic betadiversity. This strengthens the clustering results and indicates that different adaptive forces impact species distributions for each of the tetrapod groups.

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