Sive Finlay: Thesis Abstract

Morphological diversity in tenrecs (Afrosoricida, Tenrecidae): Comparing tenrec skull diversity to their closest relatives.

Patterns of morphological diversity (the variety of physical form) have important implications for our understanding of species ecology and evolution. Some clades such as cichlid fish and anole lizards are known for their high morphological diversity. Studying these groups can provide insights into the processes that led to the evolution of this exceptional diversity.

Morphological diversity is often studied qualitatively. However, to truly understand the evolution of diversity, it is important to take a quantitative approach instead of relying on subjective, qualitative assessments. Here, I present a quantitative analysis of morphological diversity in a Family of small mammals, the tenrecs (Afrosoricida, Tenrecidae).

Tenrecs are often cited as an example of an exceptionally morphologically diverse group. However, this assumption has not been tested quantitatively. In this thesis, I use geometric morphometric analyses of skull shape to test whether tenrecs are more morphologically diverse than their closest relatives, the golden moles (Afrosoricida, Chrysochloridae). Tenrecs occupy a wider range of ecological niches than golden moles so I predicted that they would be more morphologically diverse.

Contrary to my expectations, I found that tenrec skulls are only more morphologically diverse than golden moles when measured in lateral view. Furthermore, similarities among the species-rich *Microgale* tenrec Genus appear to mask higher morphological diversity in the rest of the Family. These results reveal new insights into the morphological diversity of tenrecs and highlight the importance of using quantitative methods to test qualitative assumptions about patterns of morphological diversity. In addition, the extensive morphological data set I collected represents a significant resource for future research.