

Diversity hypotheses

1. Why diversity?

- I.e. why are there so many species?
 - Balance of speciation and extinction over time
- Evolutionary time-scales

2. Why diversity patterns?

- Adjustment to circumstances:
 - Migration (immigration and emigration)
 - Dispersal
 - speciation and extinction
- Ecological time-scales

Explaining biodiversity patterns in space:

A first-order generalisation

- To explain patterns of endemism, we need to look first at the biogeographic and evolutionary history
- To explain patterns of species richness, we need to look first at ecological explanations.

Gaston & Blackburn (2000)

Regions with high species richness tend to be:

- Large
- Productive
- Old in terms of effective time for diversification

→ Deficiencies in any of these tends to reduce the region's richness

Least well-understood link in this argument:

- Why should there be more species in productive areas, rather than just more individuals of some?