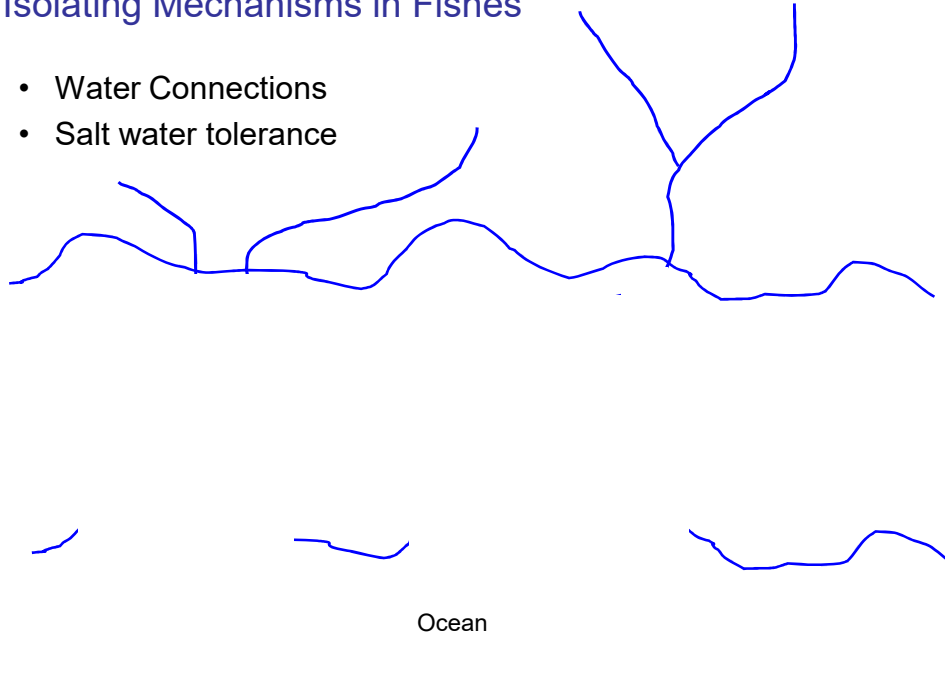


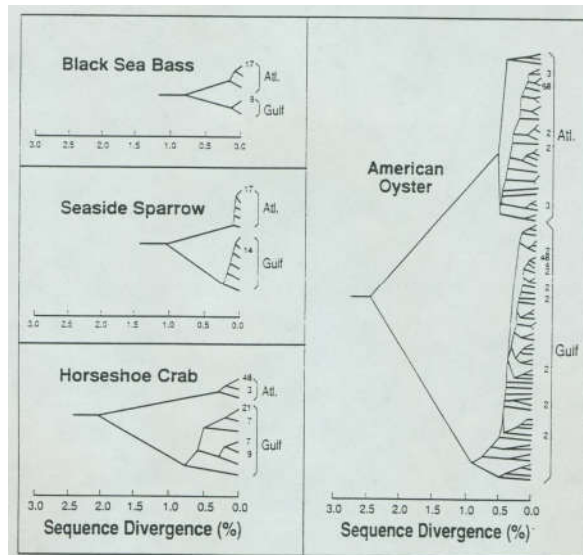
Isolating Mechanisms in Fishes

- Water Connections
- Salt water tolerance

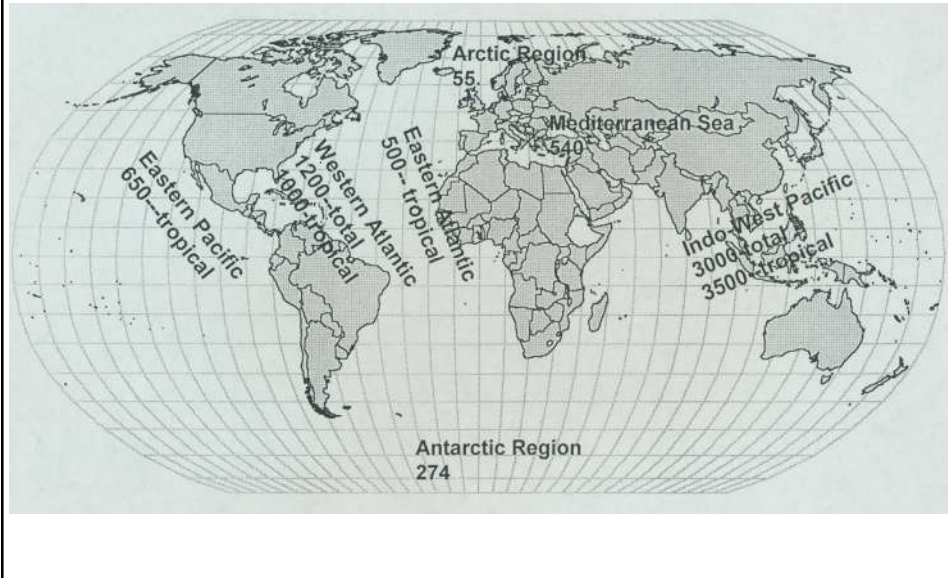


Marine Fish Biogeography

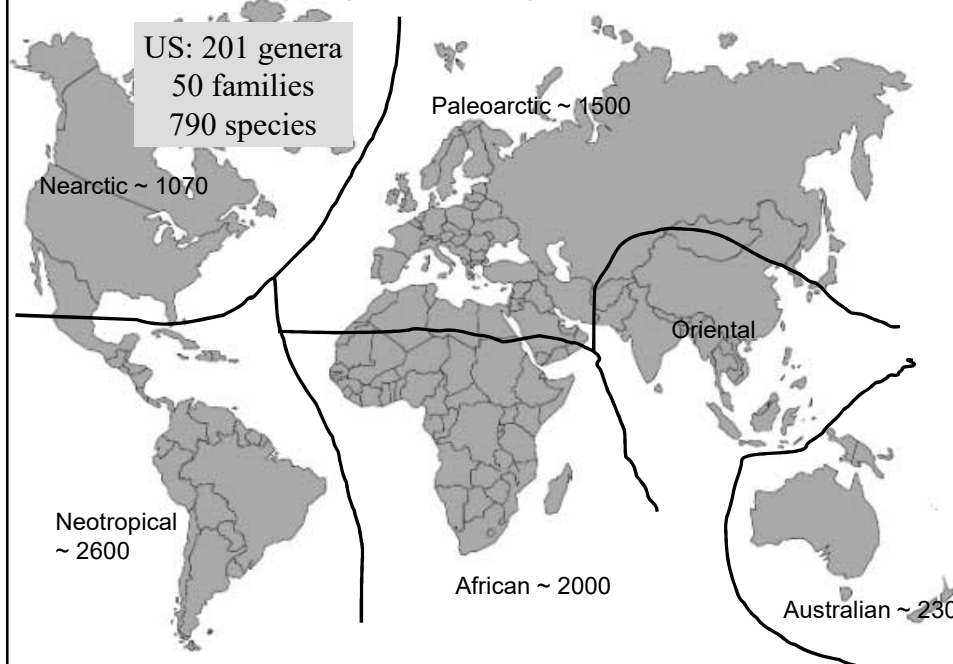
- Marine Fishes
 - Connected regions of suitable habitat
- Historical and current factors
 - Temperature
 - Continental movements
 - Reef construction
 - Sea level changes



Marine Zoogeographic Regions



Freshwater Zoogeographic Regions



Complications to Freshwater Patterns

- More isolating factors
 - Salinity Tolerance
 - Drainage basin variability
 - Proportionately more diversity
 - Glaciation and sea level changes

Osmoregulatory Challenges

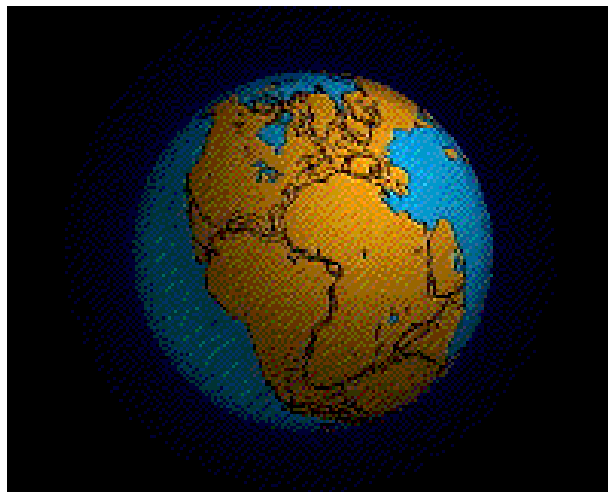


Changing strategies is physiologically demanding
Fishes tend to be phylogenetically constrained to freshwater or marine
Some taxa are more plastic than others, highly tolerable
Can you name one?

Isolating Mechanisms

- Primary freshwater
- Secondary freshwater
- Saltwater dispersants (Peripheral)

Continental Movements



<http://www.youtube.com/watch?v=uLahVJNnoZ4&t=2m2s>

