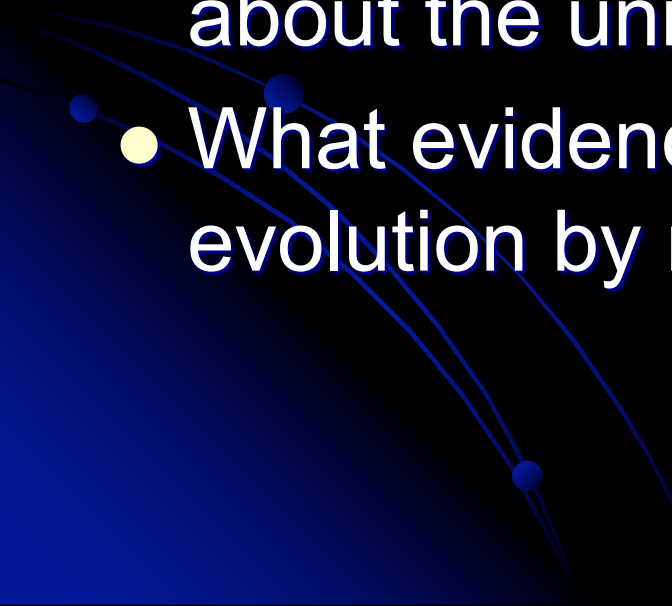
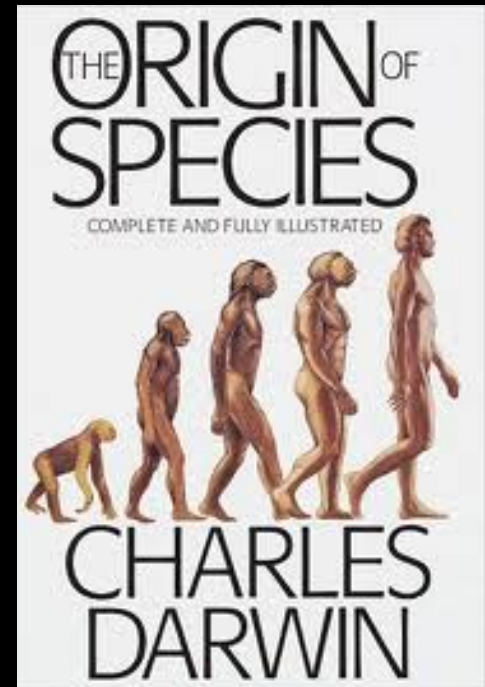


Chapter 17.3: Darwin's Theory: Natural Selection

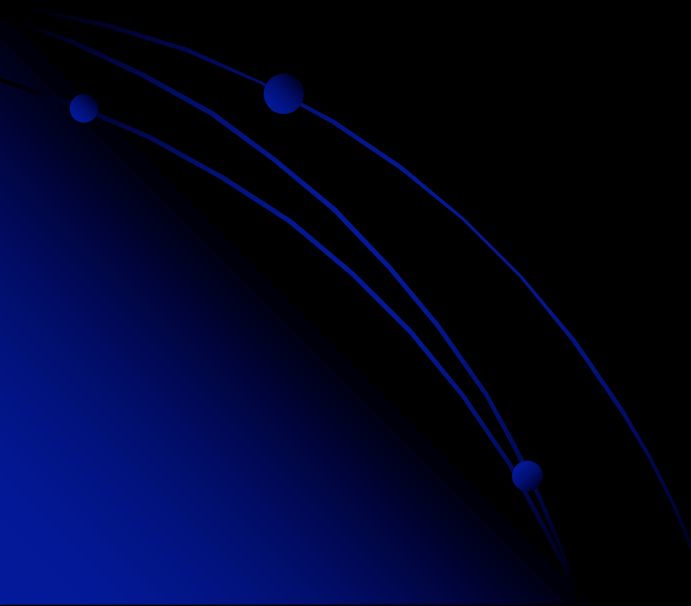
Essential Questions:

- Under what conditions does natural selection occur?
 - What does evolutionary theory suggest about the unity and diversity of life?
 - What evidence did Darwin present for evolution by natural selection?
- 

- Publication of *On the Origin of Species*
 - 1858: Alfred Wallace
 - Darwin publishes 1859



- Evolution by Natural Selection
 - Struggle for existence
 - Variation and adaptation
 - Survival of the fittest
 - Fitness
 - Natural selection
 - Common ancestry

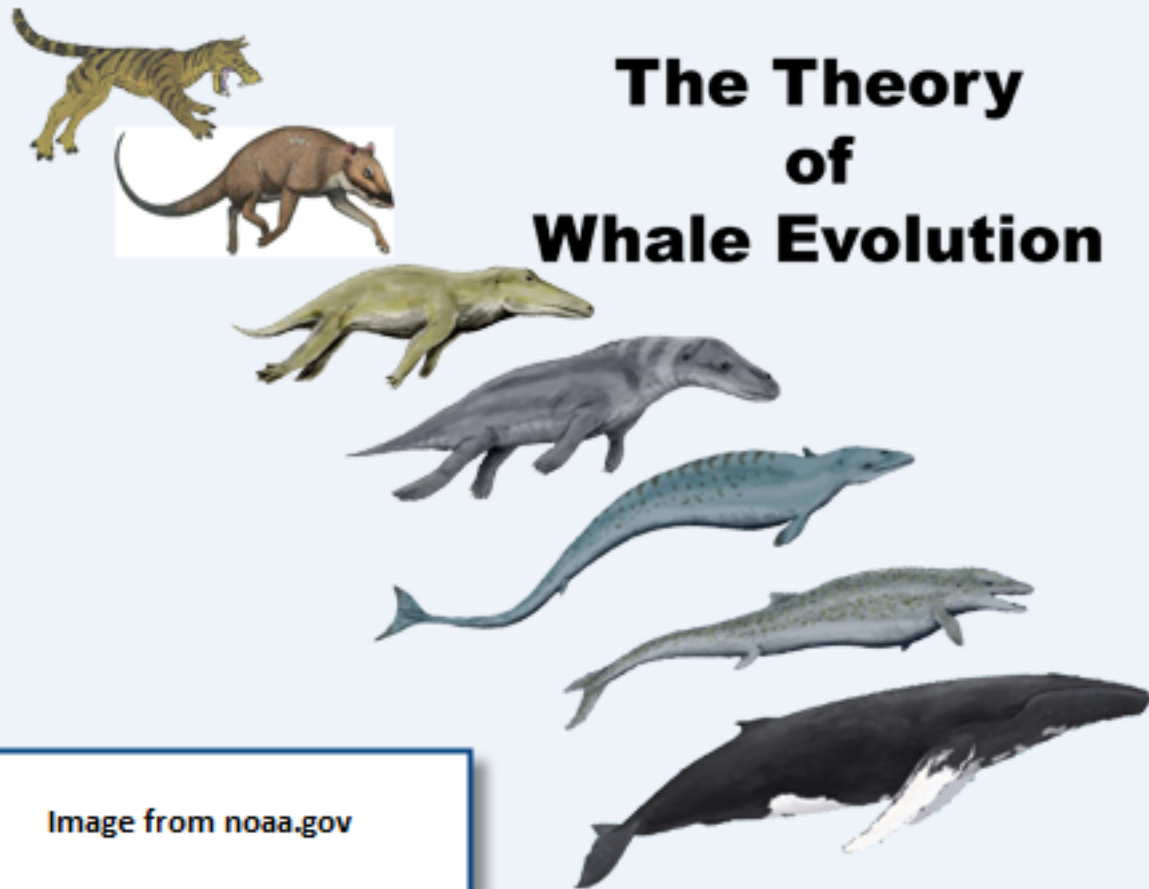


Ch 17.4: Evidence for Evolution

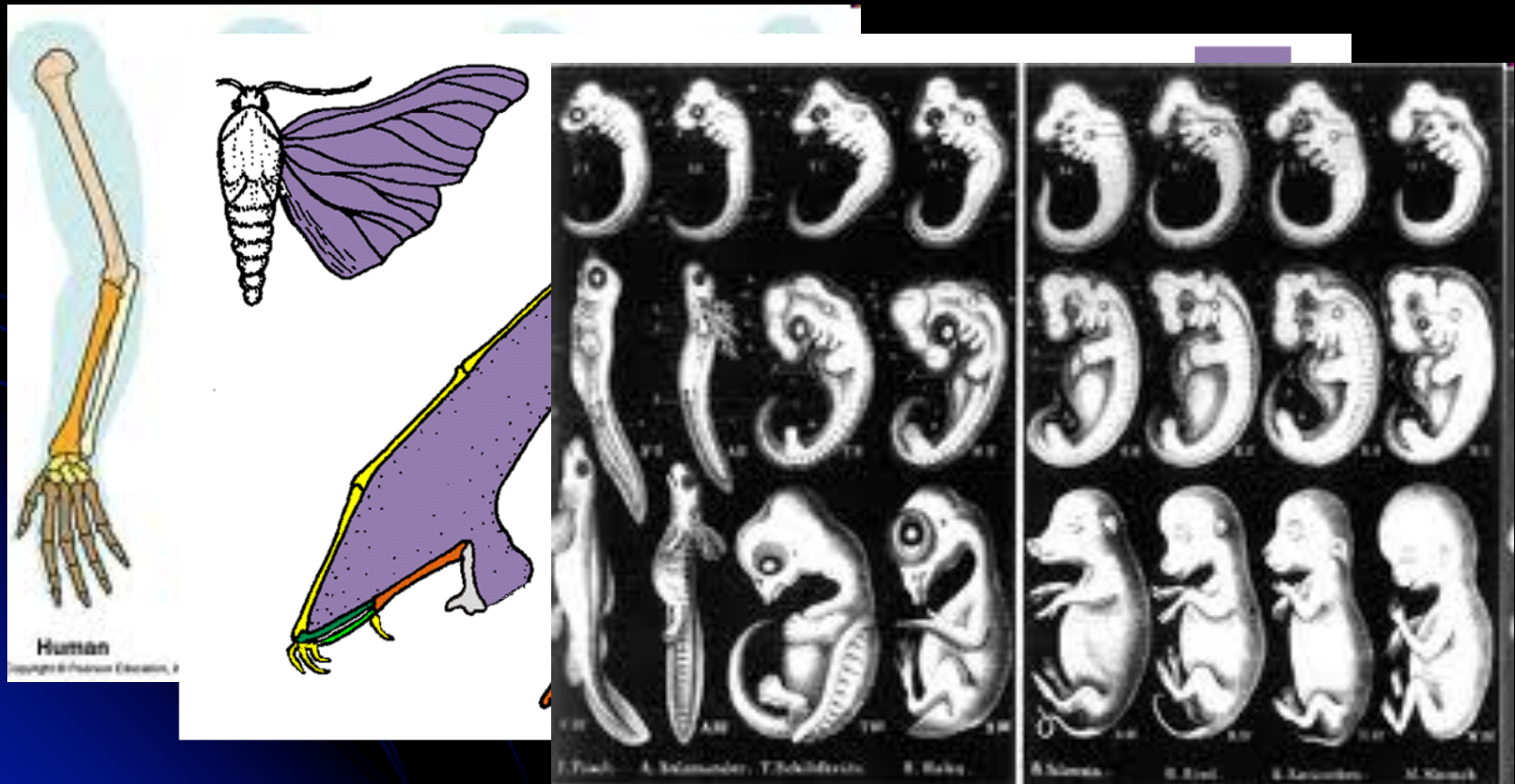
- Biogeography
 - Closely related but different
 - Distantly related but similar



- The Age of the Earth & Fossils
 - The age of the earth
 - Recent fossil finds

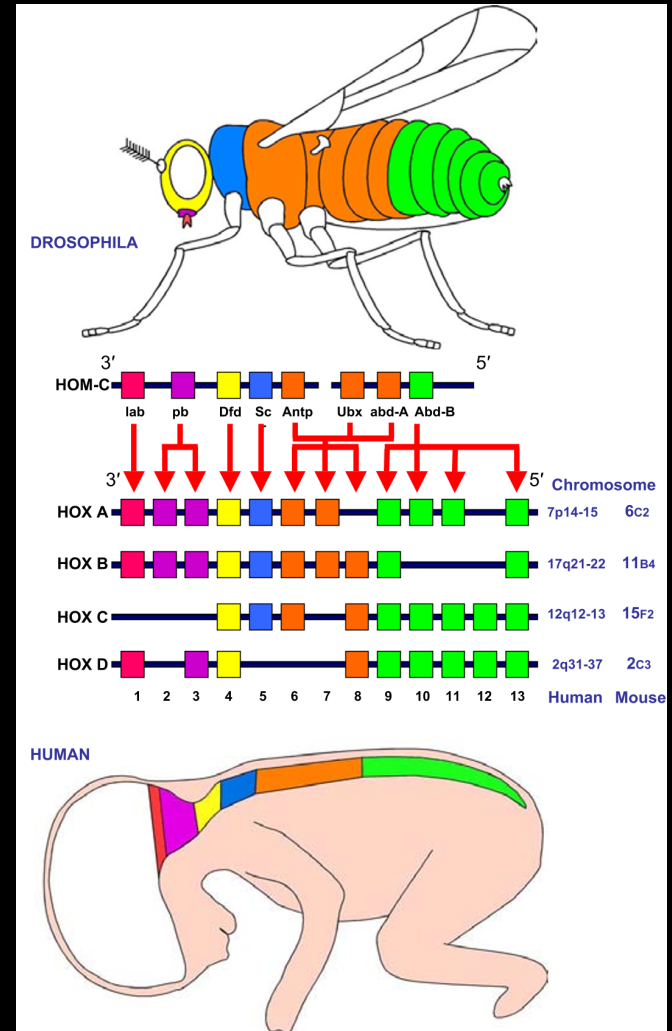


- Comparing Anatomy and Development
 - Homologous structures
 - Analogous structures
 - Development

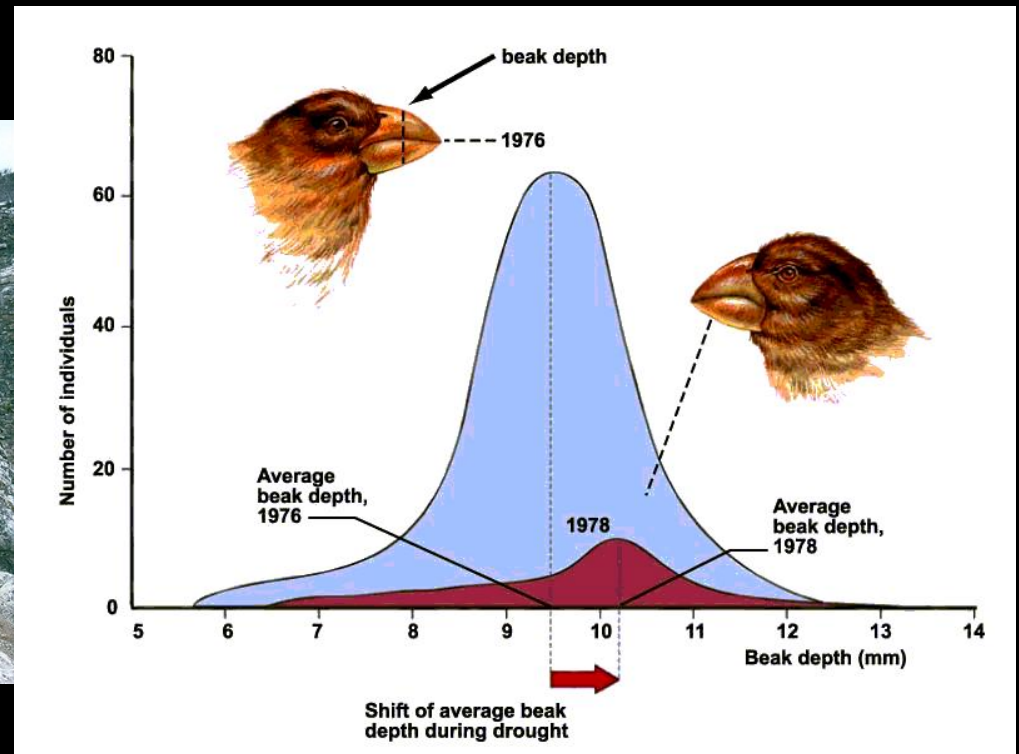


- Genetics & molecular biology

- Life's common genetic code
- Molecular homology



- Testing Natural Selection
 - Back to the Galapagos
 - A testable hypothesis
 - Natural selection
 - Evolutionary theory evolves



● Summary of Darwin's Theory

1. Variation exists
 2. More offspring produced than can survive
 3. Therefore, competition for limited resources
 4. b/c of #1, each org. has advantages & disadvantages in struggle to survive
 5. Most fit individuals survive/reproduce most successfully
 6. Species change over time due to *natural selection*, new species appear & other species disappear
 7. Species alive now descended, with modification, from past species
 8. All orgs. are united in a single tree of life by common descent
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