

Chapter 13: Evolution

Most scientists accepted that species are fixed, permanent forms that do not evolve.

Many of Darwin's observations indicated that geographic proximity is a better predictor of relationships among organisms than similarity of environment

Hypothesis: The descendants of a remote ancestor spread into various habitats over millions of years

Consequently, scientists regard Darwin's concept of evolution by means of natural selection as a theory

Evolution - the idea that living species are descendants of ancestral species.

Fossils

- Are the imprints or remains of organisms that lived in the past
- Document differences between past and present organisms
- Reveal that many species have become extinct

The sequence in which fossils appear within strata

The fossil record is the chronicle of evolution over millions of years of geologic time engraved in the order in which

fossils appear in the rock strata.

Evolution - descendant with modification

Chordata - Chordata

-notochord

-nerve chord

-Post anal tail

-phalangeal gill slit

Vestigial structures are remnants of features that served important functions in the organism's ancestors

Artificial selection - selective breeding

1. Population evolves over time
2. Natural selection amplify or diminish heritable traits
3. Evolution is not goal directed

Natural selection is an more of an editing process than a creative mechanism.

Natural selection is contingent on time and place.

