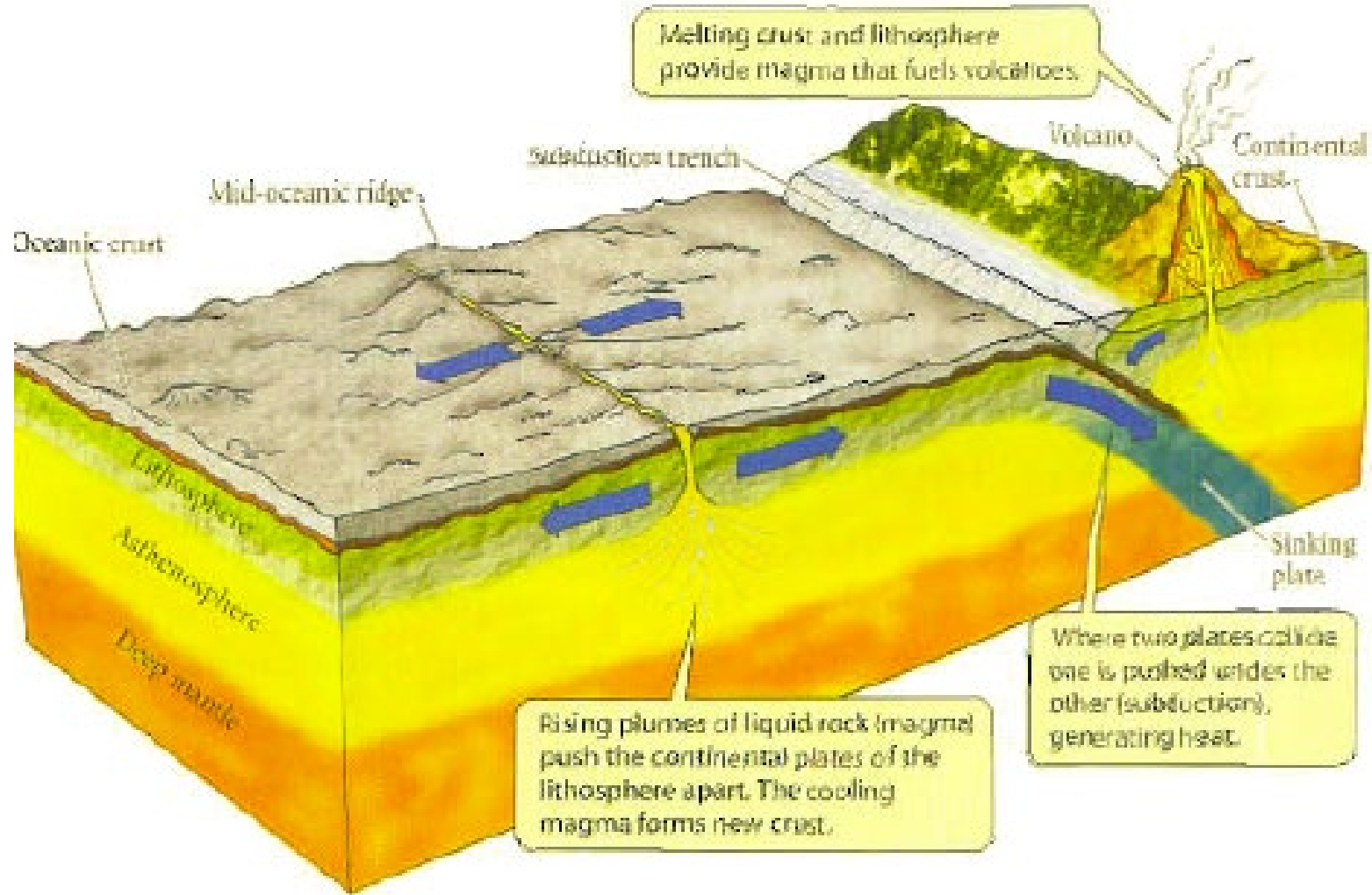
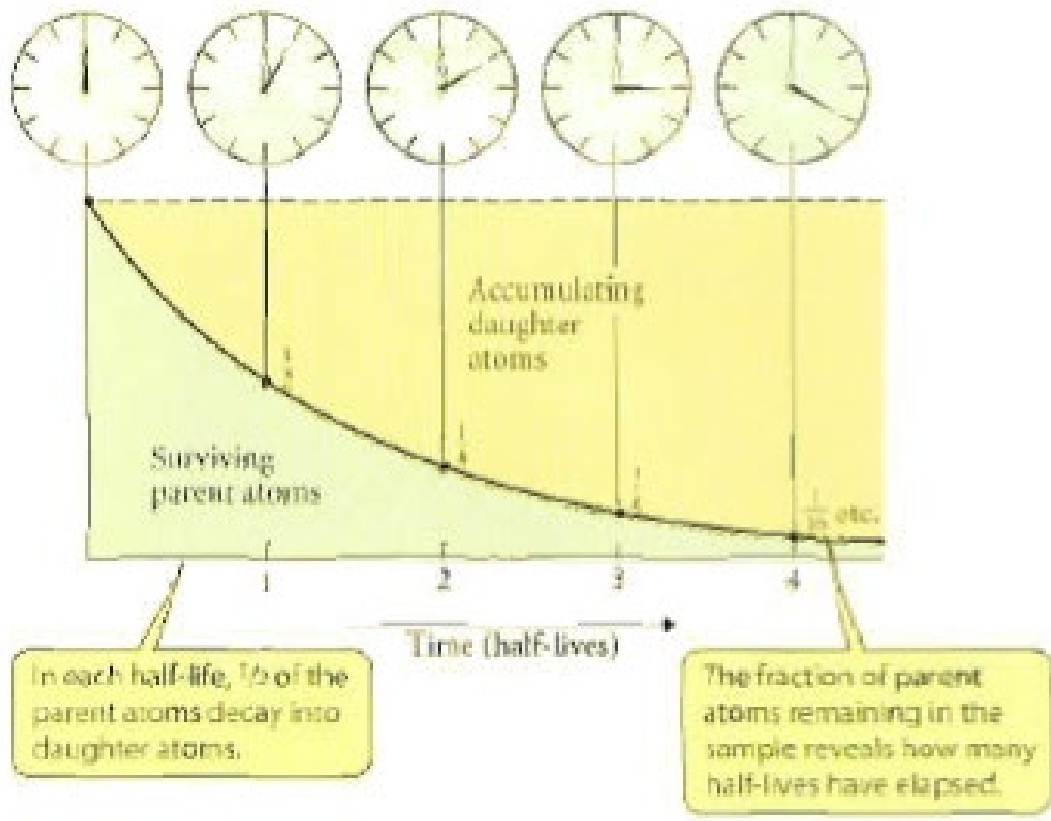
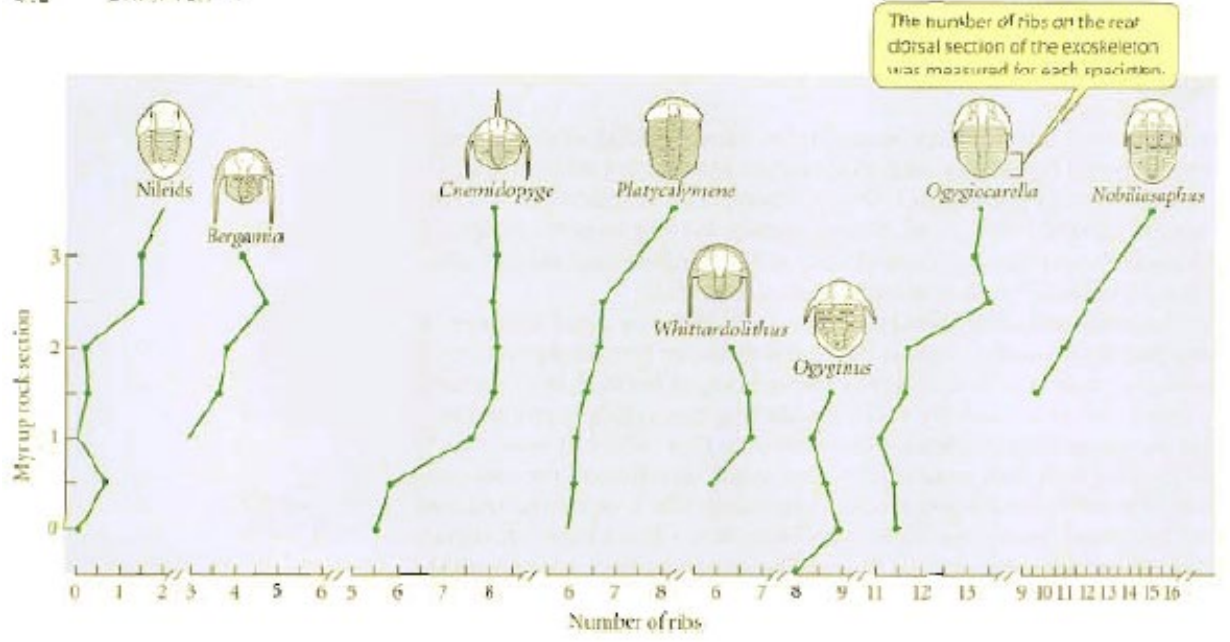


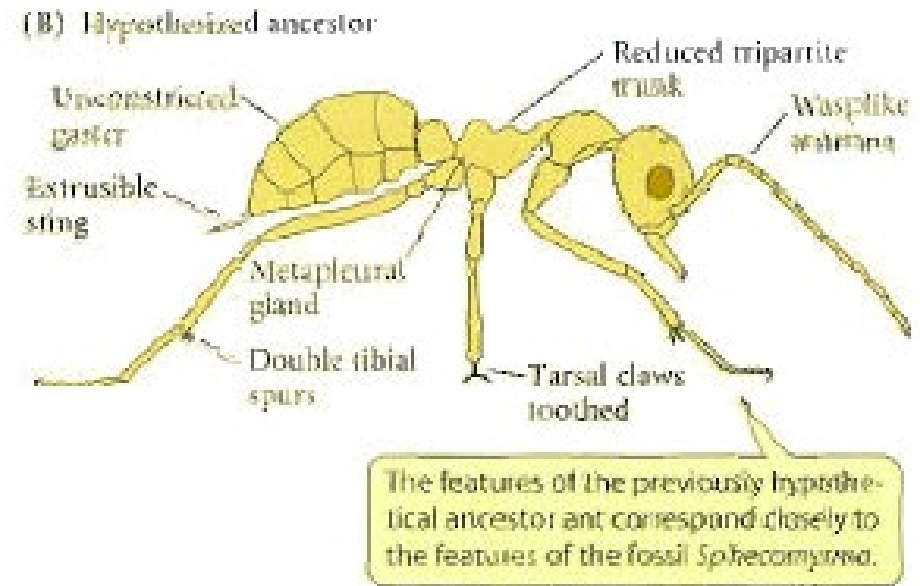
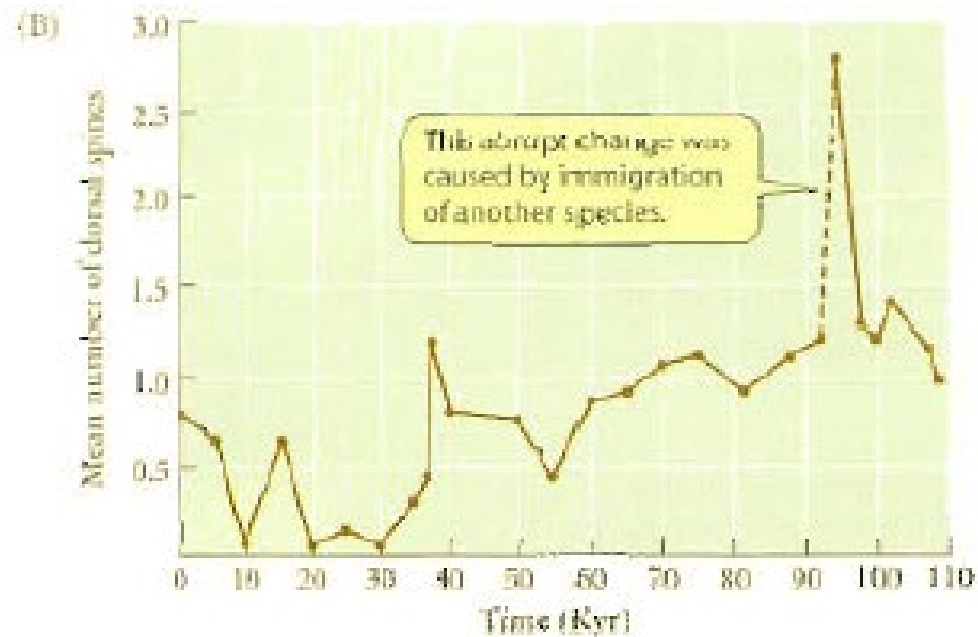
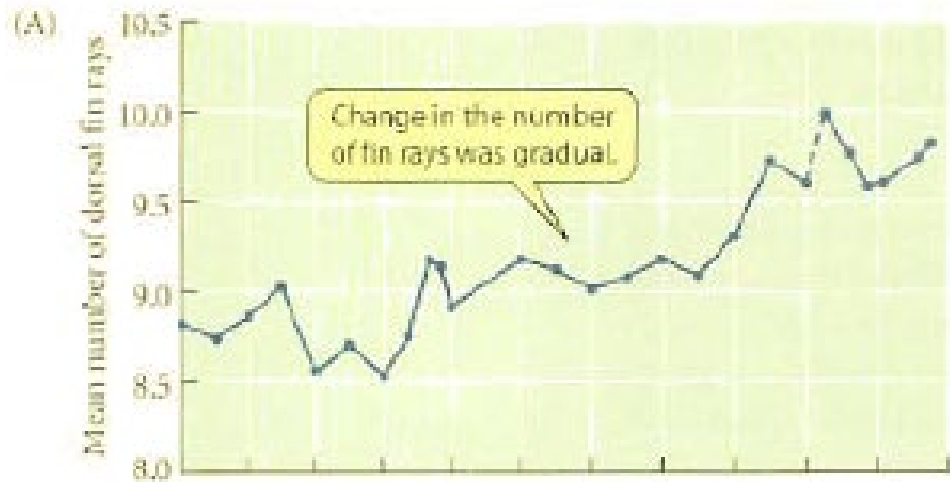
4. Evrimin Taşıl Kayıtları



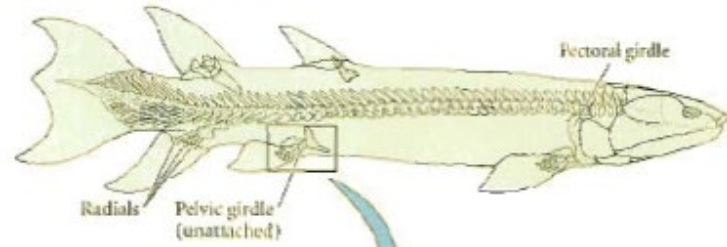


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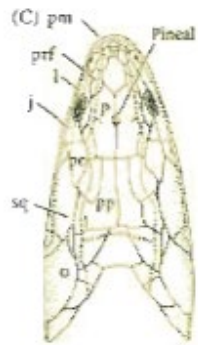




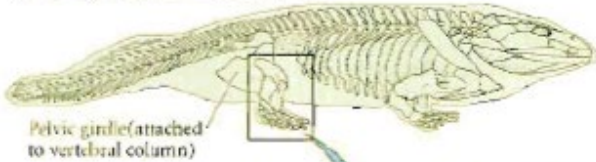
(A) *Eoichthopteron* (a rhipidistian)



The five basal bones supporting the pelvic fin are similar to those in the hindleg of *Ichthyostega*...



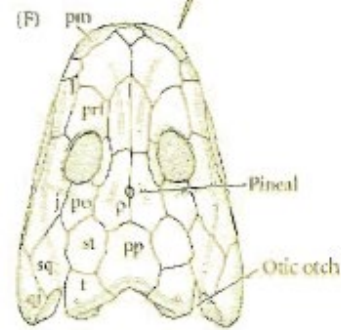
(D) *Ichthyostega* (an early amphibian)



The braincase, dermal skull bones, and lateral line canals are similar in the rhipidistians and the ichthyostegids.



...but the amphibian limb has definitive digits.



(A) *Archaeopteryx*

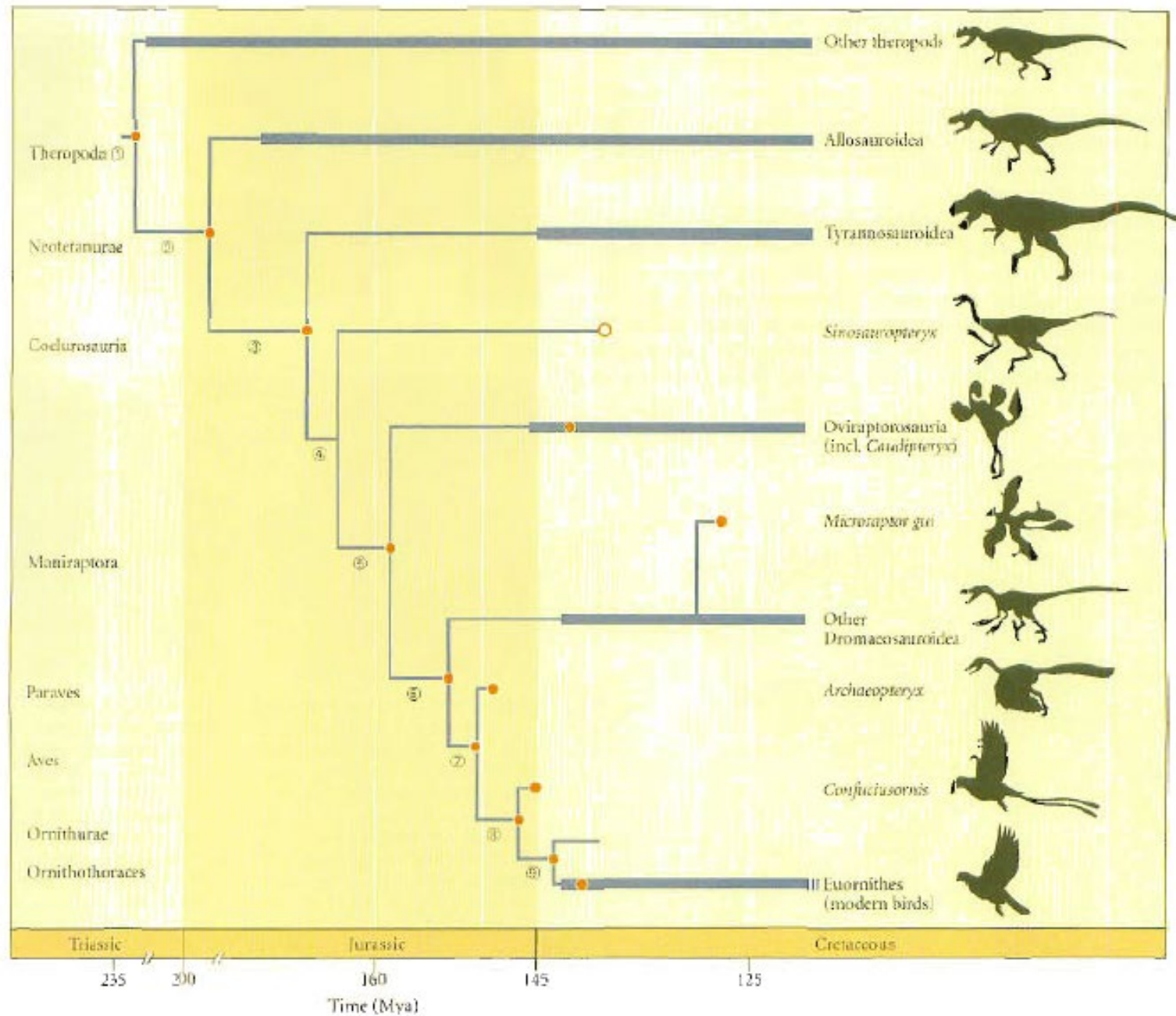


(B) Pigeon

(C) Theropod dinosaur



The long hand bones, leg structure, and shape of the claws are some of the many similarities to *Archaeopteryx*.



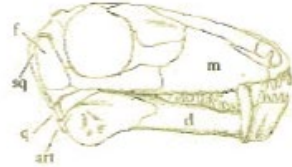
Reference: Futuyma, D. J. (2005). Evolution. Sinauer & Associates. Inc., Sunderland, Massachusetts, 226-243.

(A) Synapsid (*Haprodus*)



Synsids had large jaw muscles, multiple bones in the lower jaw, and single-cusped (single-point) teeth.

(B) Therapsid (*Bairiostictus*)



Synsids of the order Therapsida had large canine teeth, large maxilla bones, and long faces.

(C) Early cynodont (*Proganochus*)



In cynodont therapsids, the side of the braincase was vertical and the large temporal fenestra was lateral to it.

(D) Cynodont (*Thrinacosodon*)



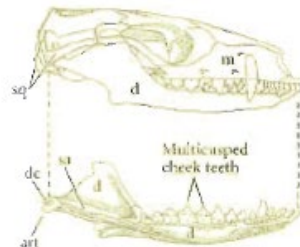
The cynodont dentary bone became enlarged, and the cheek teeth had multiple cusps.

(E) Advanced cynodont (*Probainognathus*)



In advanced cynodonts, complex cusp patterns enhanced chewing and the dentary (the major jaw bone) formed an articulation with the squamosal.

(F) *Morganucodon*



Morganucodon was almost a mammal, with typical mammalian teeth and a lower jaw composed almost entirely of the dentary. The jaw had a double articulation with the skull.

(A) *Eumeryx*



Eumeryx was a hippo-like artiodactyl resembling the probable ancestor of cetaceans.

(B) *Ambulocetus*



Ambulocetus lived in shallow waters and used its legs for swimming. The digits end in small hooves, like those of artiodactyls.

(C) *Rodhocetus*



Rodhocetus also swam with its hind legs. The pelvis was weak and could not support the animal on land.

(D) *Dorudon*

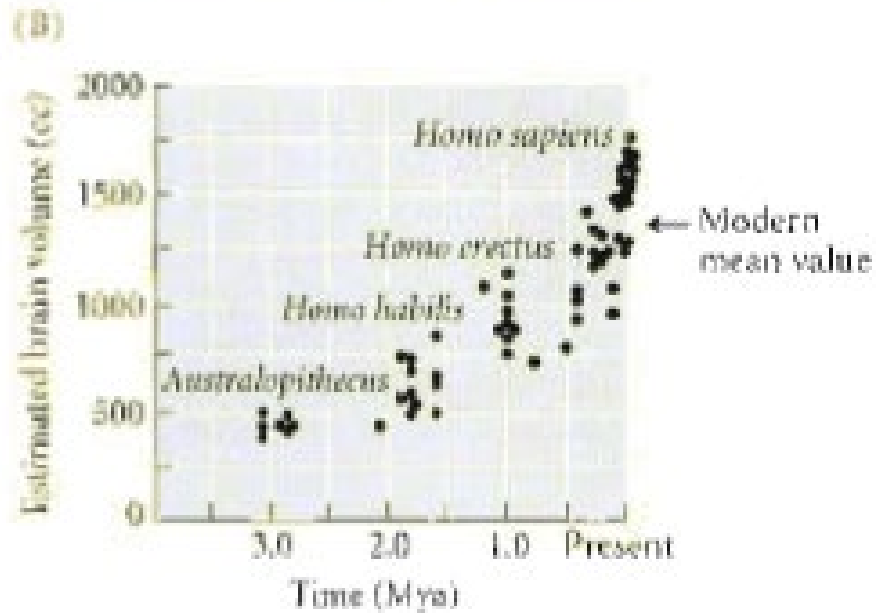
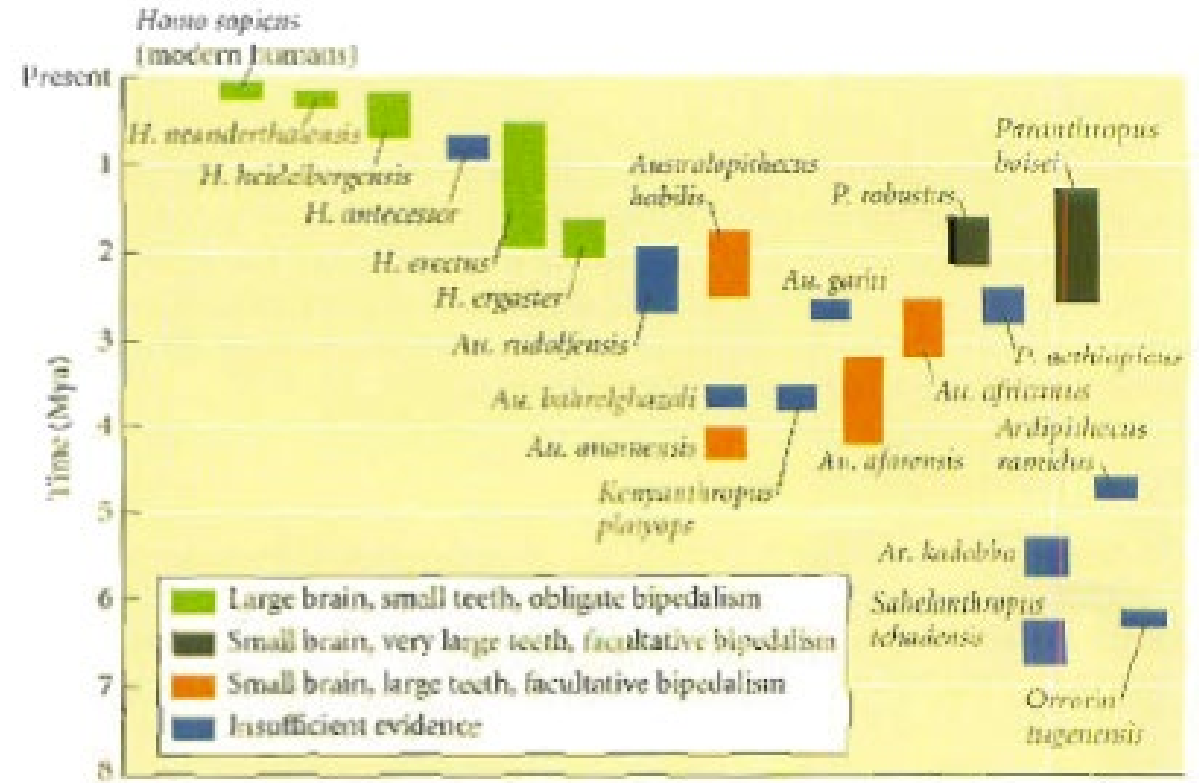
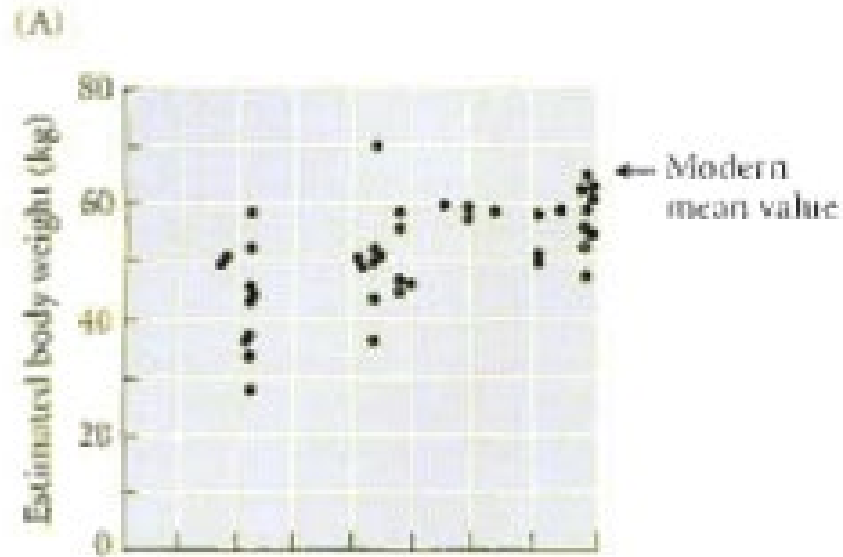


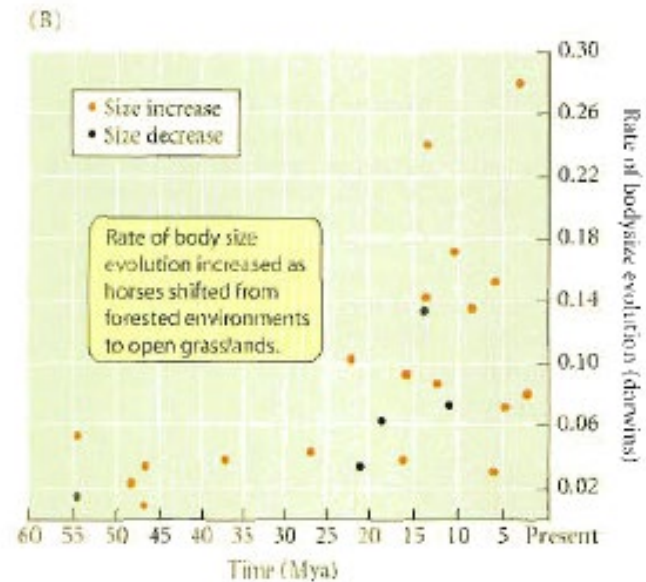
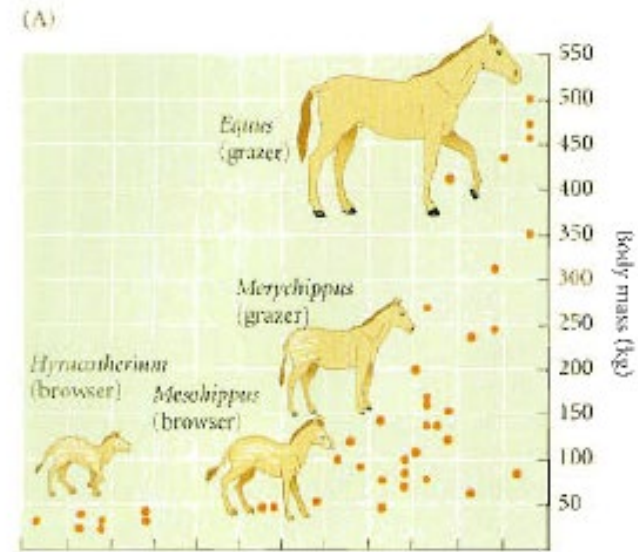
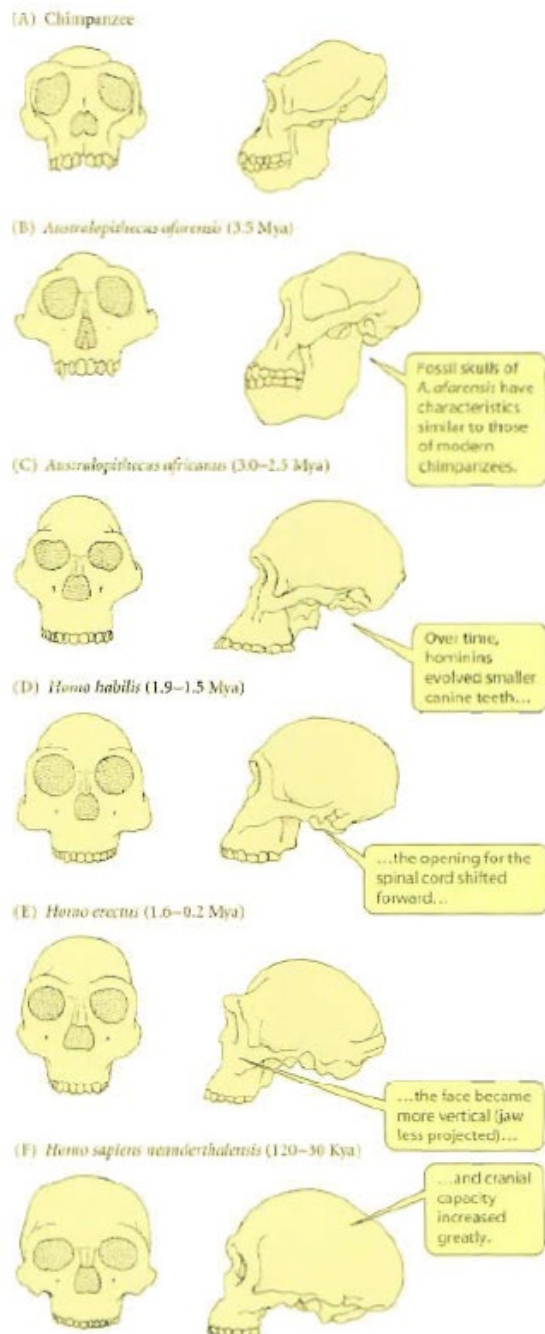
Dorudon was fully aquatic, using the tail for propulsion. The pelvis was disconnected from the vertebral column and the hindlimb barely projected from the body.

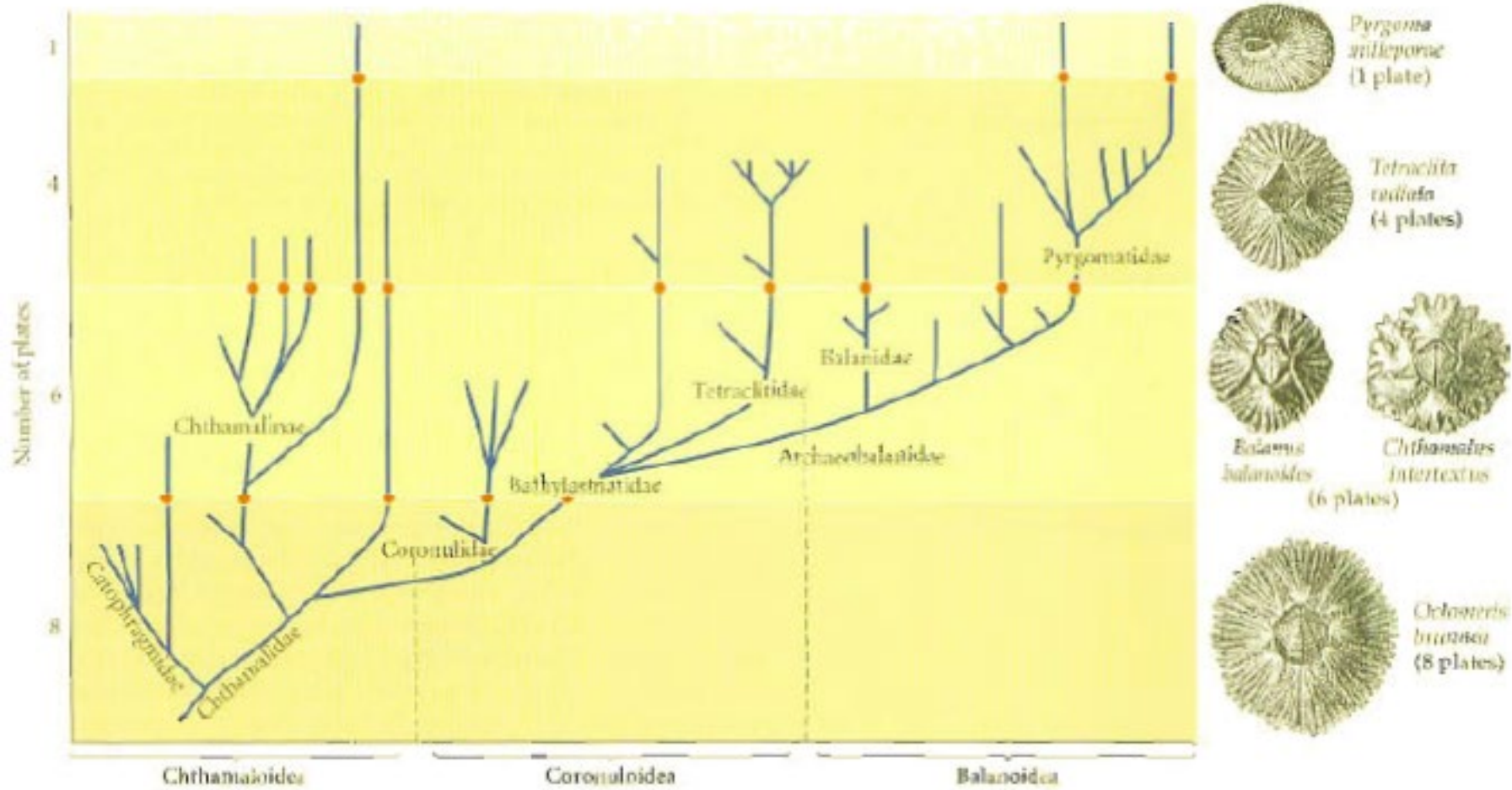
(E) *Phocoena*



The modern harbor porpoise has no residual hindlimb bones.



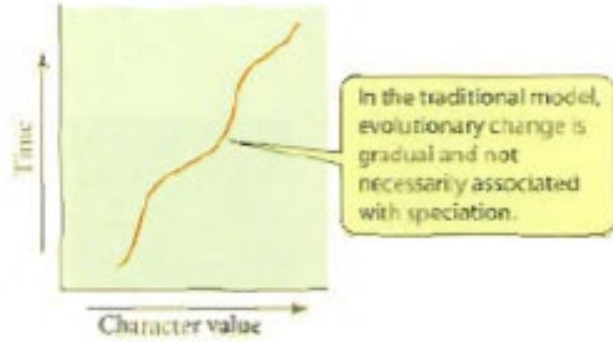




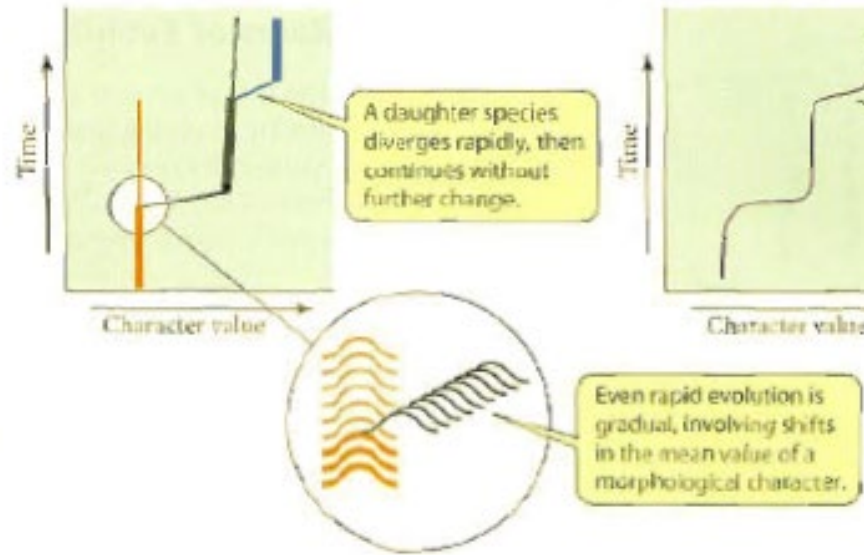
(A) Hypothetical data



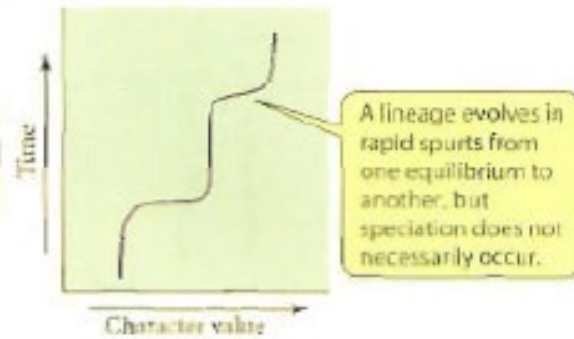
(B) Phyletic gradualism



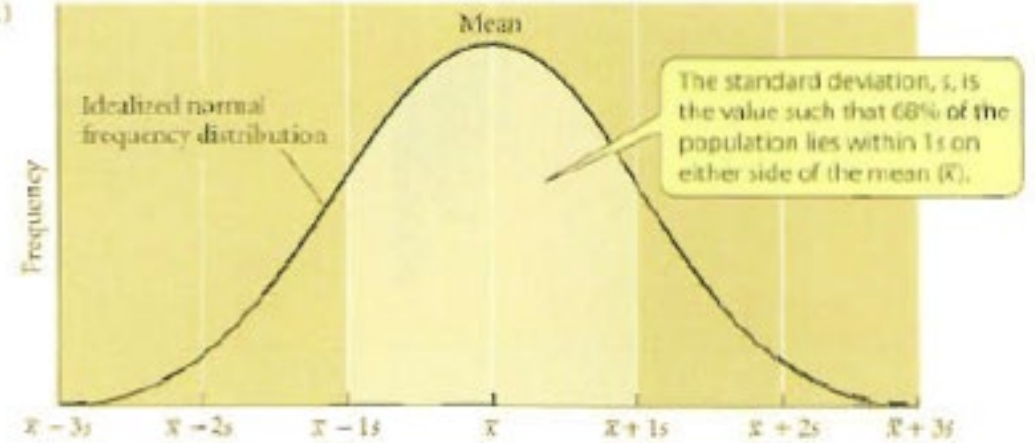
(C) Punctuated equilibrium



(D) Punctuated gradualism



(A)



(B)

