

CHAPTER 9

EVIDENCE FOR PLANT AND ANIMAL EVOLUTION

DEVELOPMENTAL BIOLOGY IN WHALES AS EVIDENCE FOR EVOLUTION

Developmental biology is the study of how organisms develop and grow before and after birth. Since Darwin's time, developmental biology has advanced dramatically. It offers new evidence for the theory of evolution. For example, scientists are now able to study how a whale embryo develops in the womb. The evidence from whale development is in striking agreement with what is seen in the fossil record (see "Whales—Land or Sea Creatures" on this website.)

Several features of whale embryos suggest that the ancestors of whales once walked on land. Many whales begin to develop body hair in the womb but lose nearly all of it before or shortly after birth. Many whale embryos show hind limb buds for a while, which are then absorbed back into the body. Like most mammals, whale embryos start with nostrils located at the tip of the nose, but during development the nostrils gradually move to the top of the head to form blowholes. Baleen whales (who don't have teeth) start developing teeth in the womb but then lose them during development.

All of these features might be surprising if whales had been specially created separately from land mammals—although God *could* choose to make them this way. But all of these features make a lot more sense if God created whales by using evolution to gradually modify land-based mammals into whales.

This is just one example of how looking at the development of organisms provides evidence for evolution. Many more examples can be found in other species.