

# Evidence for Natural Selection

## What scientific evidence supports the theory of evolution by natural selection?

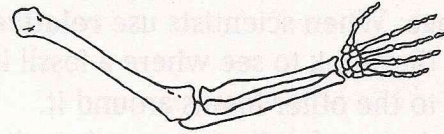
In addition to fossils, other kinds of scientific evidence support the theory of evolution by natural selection as well.

**Antibiotic resistance** Charles Darwin thought that natural selection occurred so slowly it could never be observed. However, modern technology makes it possible to observe the process of natural selection directly. For example, doctors prescribe antibiotics to kill disease-causing bacteria. In any population of bacteria, some are more resistant to antibiotics than others. The resistant bacteria survive and reproduce, passing their resistance to a new generation. Eventually, the entire population is made of resistant bacteria. This process can be observed in just a few weeks or months.

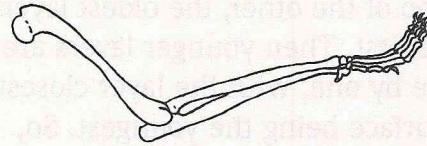
**Anatomy** The skeletons of different animals have similar bones. For example, the bones that form human arms, hands, and fingers are very similar to the bones that form a bat's wing, a dolphin's flipper, or a cat's paw. The similarities suggest that these four groups of animals share a common ancestor.

**Vestigial structures** Some existing body parts, like the human appendix, no longer have a function. These structures probably served a useful purpose in an ancestral

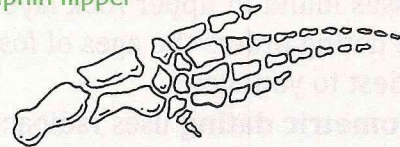
Human arm



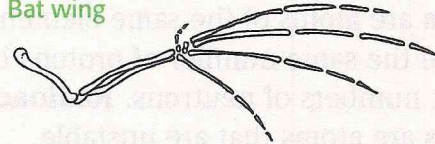
Cat leg



Dolphin flipper



Bat wing



organism. For example, the skeleton of a modern whale includes small hind-limb bones that serve no purpose. The presence of these bones suggests that whales evolved from four-legged mammals that lived on land.

**DNA** All life on Earth shares the same kind of genetic material—DNA. This fact supports the idea that all species share a common ancestor.

### Show What You Know

What does the presence of eyes in blind cave fish indicate about the fish's ancestry?

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