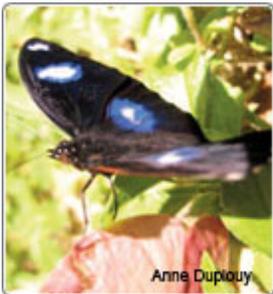




Evolution in the fast lane

Evolution isn't something which just happened in the past, it's taking place right now. But because the changes are usually very slow, we are often not aware of it happening.



Evolution can be slow and consistent or punctuated by a rapid change. Rapid changes can occur if a random genetic mutation leads to a major alteration in the way an organism functions, or if a change in the environment creates harsh selection pressures. By harsh selection pressures, we mean that survival becomes so critically dependent on a particular trait that those species without that trait are wiped out in a very short space of time. Only those individuals with the genes for the advantageous traits are able to reproduce and continue their line of heritage.

Not so slow

Scientists have discovered that a population of butterflies on a South Pacific island that has evolved very rapidly in response to a deadly bacterial disease. The disease acted as a harsh selection pressure by killing off nearly all the male Blue Moon butterflies. The sole survivors had an advantageous mutation which enabled them to fend off the bacterium. Being the only reproductive males on the island, all subsequent offspring carried this advantageous gene. On one of the islands, this resistance gene spread in a year (just 8-9 generations of butterfly). The effects of this tiny bacterium produced some of the most rapid evolutionary and ecological changes recorded in natural systems.

In the lab...

Some species such as bacteria, viruses and flies have a short life-cycle and reproduce very quickly. Such a short space of time between generations can result in speedy evolutionary change. Because of this, scientists often study evolution in laboratories using fruit flies as evolutionary change can be witnessed within a scientist's life-time.



Further Reading

- [Survival of the fastest](#): Male-killing drives rapid evolution
- [Like father, like son – attractiveness is hereditary](#): NERC press release: