

Coevolution

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What is Coevolution



The term [coevolution](#) describes organisms that are ecologically intimate reciprocally affect

each other's evolution. For example, predators and prey, or hosts and parasites –Morphology of herbivore gets affected if it feeds on a plant which has a morphological changes due to evolution .This might affect the evolution of the plant, which might affect the evolution of the [herbivore](#)...and it go on..



Characteristics

- The change of a biological object triggered by the change of a related object.
- Involves reciprocal genetic change in interacting species.
- Can occur at many biological levels
- Microscopic as correlated mutations between amino acids in a protein
- Macroscopic as covarying traits between different species in an environment.
- The concept of coevolution was briefly described by [Charles Darwin](#) in *[On the Origin of Species](#)*.
- Happen when different species have close ecological interactions with one another.

Ecological relationships

1. Predator/prey and parasite/host - A predator eats its prey is the predation.. The predator often acquires many important feeding adaptations such as acute senses, claws, teeth, fangs, stingers, or poison that can help catch and chew the organisms on which they feed

2. Competitive species -Interspecific competition- different [species](#) compete for the same resource in an ecosystem (e.g. food or living space). [intraspecific competition](#)- involves organisms of the same species
3. [Mutualistic](#) species -Two organisms [biologically interact](#) where each individual derives a [fitness](#) benefit - Relationships like that between ants and lycaenids are called mutualism and they provide some of the most charming details in natural history.

Coadaptation Vs Coevolution

Coadaptation between two species, such as an ant and a caterpillar, is not enough to confirm that the two have coevolved together. It could be that the two lineages have been evolving independently, and it just turned that the two forms were mutually adapted to each other.



Role of Birds

- Predation by birds drives the coevolution of model and mimetic butterflies.
- Some butterflies have evolved the ability to store poisonous chemicals from the food plants they eat as caterpillars and become distasteful.
- Birds won't eat these butterflies and this reduces the butterflies' chances of being eaten.
- Other butterflies have gradually evolved color patterns that mimic those of the distasteful butterflies (called "models").
- It is disadvantageous for the models to be mimicked, because if the mimics become common then most of the butterflies with the model's color pattern taste good, the birds may resume attacking the models.
- Being tasted and spit out by a bird is a most dangerous experience for a butterfly.
- Therefore, mimicry presumably leads to a coevolutionary race -- the mimics evolving toward the color patterns of the models, and the models evolving away from the converging mimics.
- The birds actually may be directly involved in the entire coevolutionary complex, since they may be under selection for better powers of discrimination.

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Reference Links

- <http://en.wikipedia.org/wiki/Coevolution>
- <http://biomed.brown.edu/Courses/BIO48/27.Coevolution.HTML>
- <http://evolution.berkeley.edu/evosite/evo101/IIIFCoevolution.shtml>
- <http://biology.clc.uc.edu/courses/bio303/coevolution.htm>
- <http://www.stanford.edu/group/stanfordbirds/text/essays/Coevolution.html>
- [http://en.wikipedia.org/wiki/Mutualism_\(biology\)](http://en.wikipedia.org/wiki/Mutualism_(biology))

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