

Natural Selection

What are the conditions for natural selection to operate? How widely are these conditions met in nature? What are the types of selection?

There is a struggle for existence in nature

Fecundity and survival in Atlantic cod:

Natural selection operates if some conditions are met:

“If offspring tend to resemble their parents, then any attribute causing an organism to leave more offspring than average will increase in frequency over time.”

1. Variation in the trait among individuals
2. (At least some of) the variation is heritable
3. Variation among individuals in survival and/or reproduction
4. Variation among individuals in *fitness* with respect to the trait

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Types of natural selection

Directional

Stabilizing

Disruptive

Natural Selection Summary