

# A phenotype-genotype model of a population and observation of the morphological and molecular evolution

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May 5, 2020

## Abstract

A phenotype-genotype model is not a model with an evolutionary algorithm. It is a simple physical model of a population composed of individuals having genes and phenotypes, possibility of mutations of the genes and natural selection depending on phenotypes. The relationships between these phenomena were programmed according to the current vision in the genetic and evolutionary science. The evolution of such a population appears alone. The phenotype-genotype model of a population can be used to analyse the rate of the morphological evolution: the phenotype variation amounts many generations or/and molecular evolution: the genotype variation in time. It can be used to analyse relationships between rate of evolution and different physiological, population or environmental factors, for instance: an intensity of natural selection, population numbers and others. Exemplary results are presented in this paper.

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