

Lecture: Evoluionäre Systeme: Von der Biologie zur Technik

The Little Lexicon

A

allele	one of a number of different possible codings of a gene
altruism	behaviour that is beneficial for others but not necessarily for oneself
ATP	Adenosine Triphosphate; nucleotide that transports chemical energy in the cell

C

chromosome	macromolecule, that contains parts of the densely packed DNA
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D

DNA	Desoxyribonucleic acid, the carrier of genetic information
dominant gene	the allele that causes the phenotype in a heterozygous genotype
diploid genotype	organisms with two copies of each chromosome (usually one from each parent)

E

eukaryotes	organisms that have cell nuclei
enzyme	protein that acts as a bio-catalysator; i.e. speeds up biochemical reactions
epistasis	the action of one gene is influenced by other genes

G

gene	unit of hereditary information
genotype	collection of all genes of an individual, i.e. = genome

H

haploid genotype	genotype only has one copy of each chromosome, e.g. male bees, wasps and ants
heterozygous genotype	a diploid or polyploid genotype with the same allele at a locus (position)
homologue genotypes	genotypes with a common ancestor
homozygous genotype	a diploid or polyploid genotype with different alleles at a locus (position)

I

in vitro	" <i>Latin: in the glass</i> ", biological experiments that are carried out outside the living organism, e.g. in a test tube
in vivo	" <i>Latin: in the living</i> ", biological experiments that are carried out in the living organisms, e.g. animal tests
in silico	experiments performed by computer simulations

K

k Boltzmann constant: $k = 1.38 \cdot 10^{-23}$ joule/kelvin; k relates temperature (measured in kelvin) and energy (measured in joule)

P

pleiotropy a single gene influences several phenotypic traits (e.g. eye and hair colour)

polycondensation the process by which polymers are built out of monomers by separation of water molecules

polygeny several genes influence one phenotypic trait (e.g. eye colour)

polyploidity cells have multiple copies of each chromosome (mostly in plants)

polymer long molecule that consists of repeating units (monomer) and structural units

prokaryotes organisms without a cell nucleus - generally single cell organisms; mostly bacteria

protein a complex large molecule that consists of amino acids joined by peptide bonds; the amino acids are folded in a very complex way; proteins are the basic constituents of living organisms

R

reciprocal cross (reziproke Kreuzung) individuals of a certain genetic composition are used once as male and once as female parent

recessive gene the allele that causes the phenotype **only** in a homozygous genotype

W

wildtype one of the major (most successful) genotypes of a species