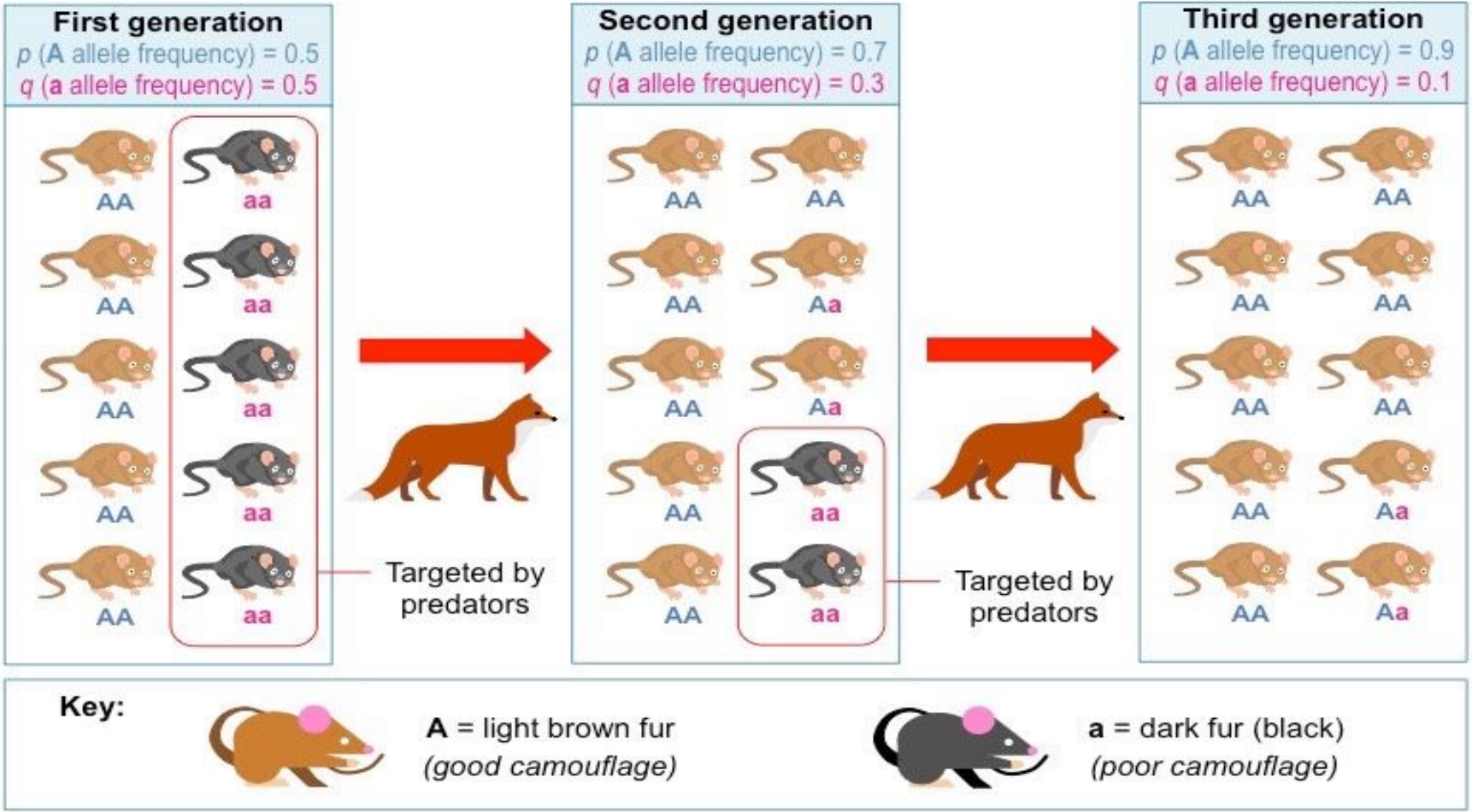


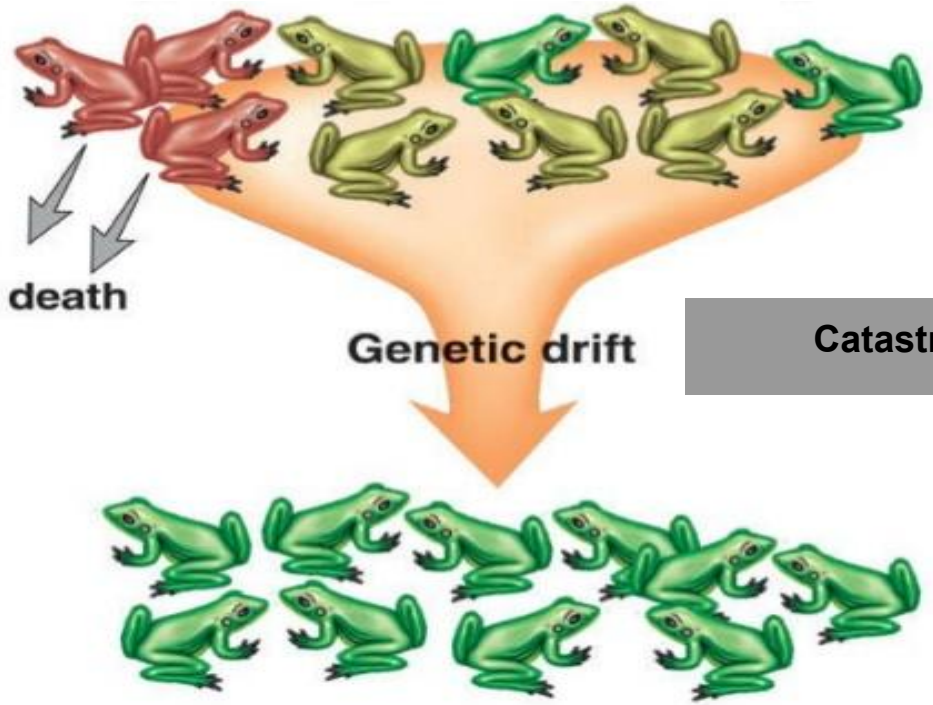
Populations evolve over time, **not** individuals.

Chapter 16.2: Evolution as genetic change

Natural selection never acts directly on genes,
only on whole organisms

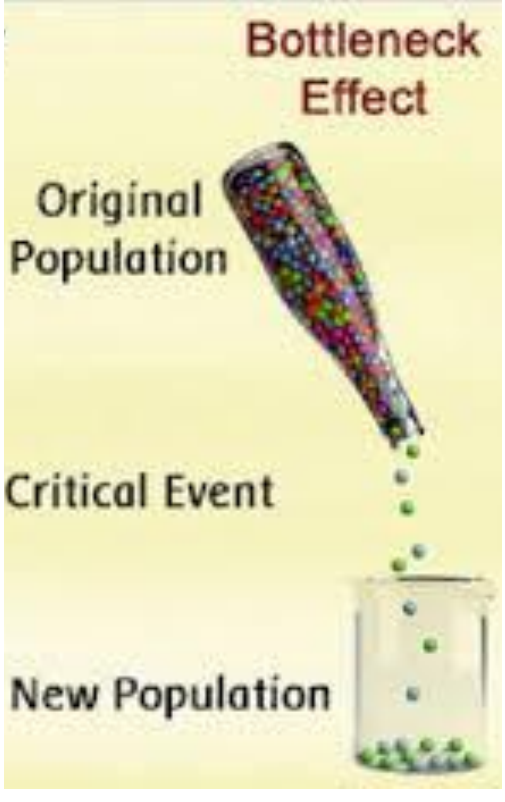
Circumstances that can affect allele frequency by **chance**:

<u>Genetic Drift</u>: changes in allele frequency of a small population due to a random event.

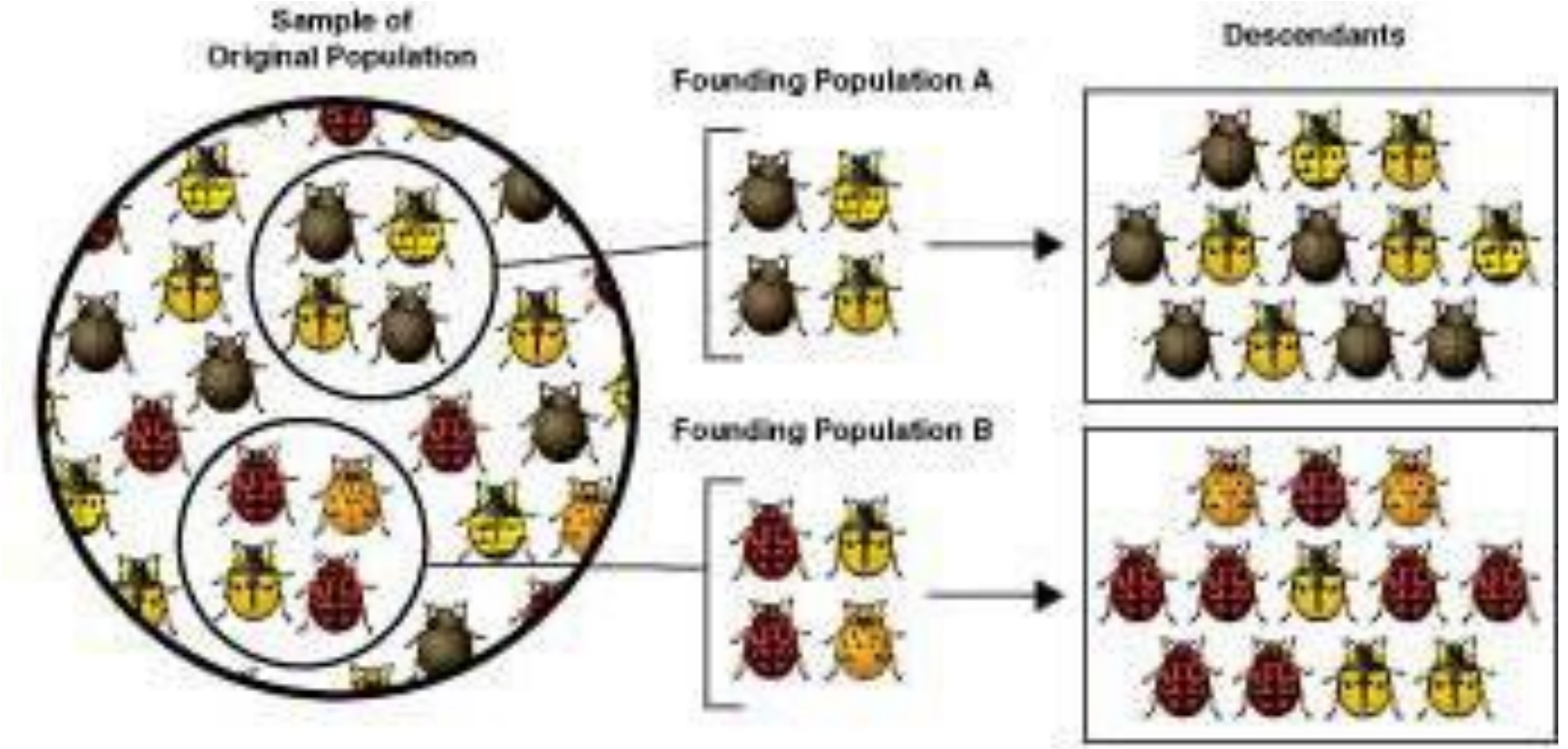


Catastrophic event

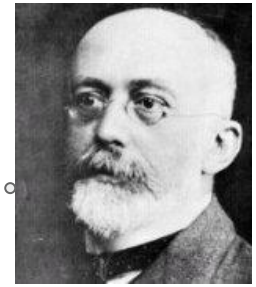
1. The **Bottleneck effect** occurs when a population's size dramatically decreases and certain alleles are wiped out of the population.
    - creates lack in genetic variation.



2. **Founder effect** occurs if a small group of individuals colonize a new habitat



Hardy-weinberg equilibrium



What happens when *no change* in allele frequencies takes place?

Evolution will NOT occur, if there is no change in allele frequencies

Hardy weinberg principle:
allele frequencies will remain constant unless one or more factors cause frequencies to change.