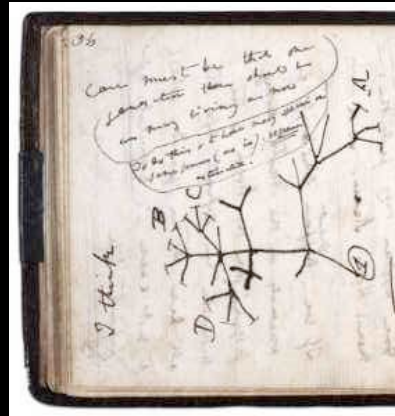
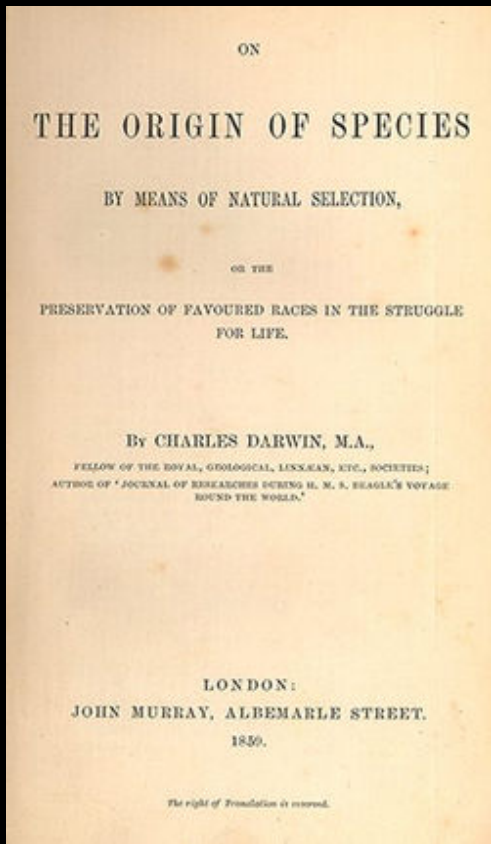
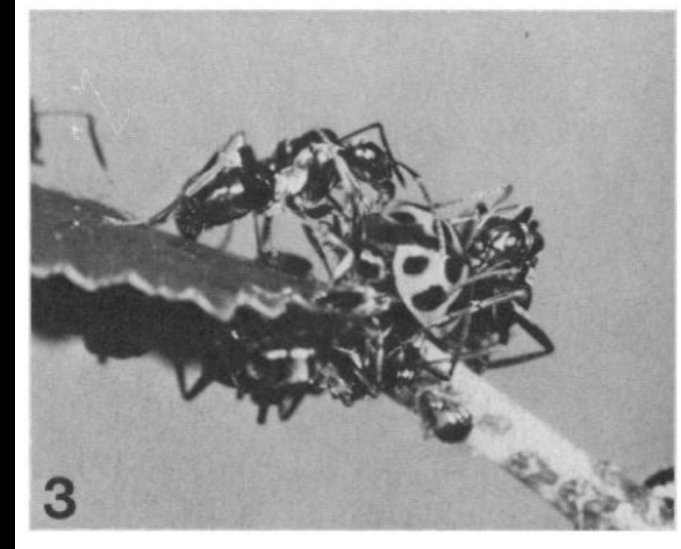


Reed Summer Research Poster Session International Plaza this Friday @ 4:10



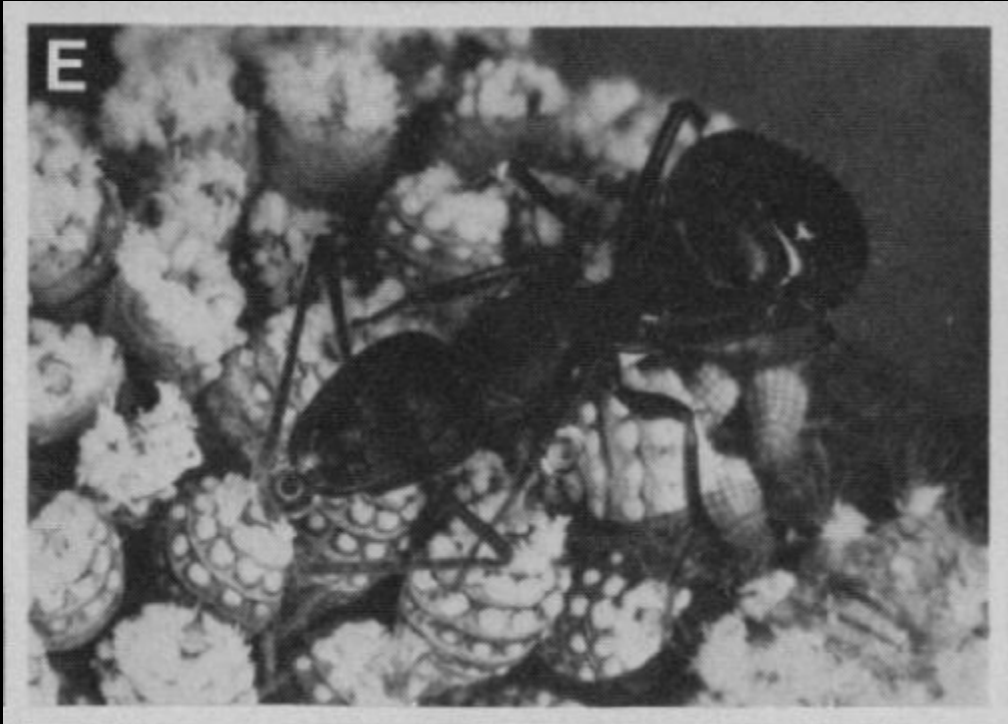


Darwinian Puzzle or Paradox



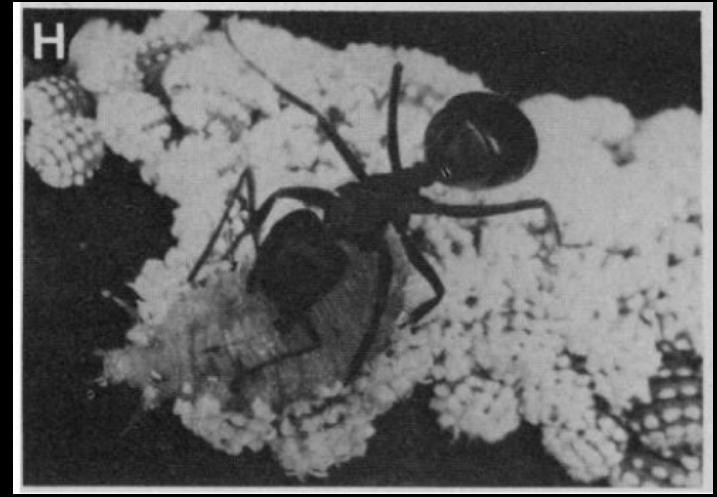
Honey dew

MYRMECOPHILY

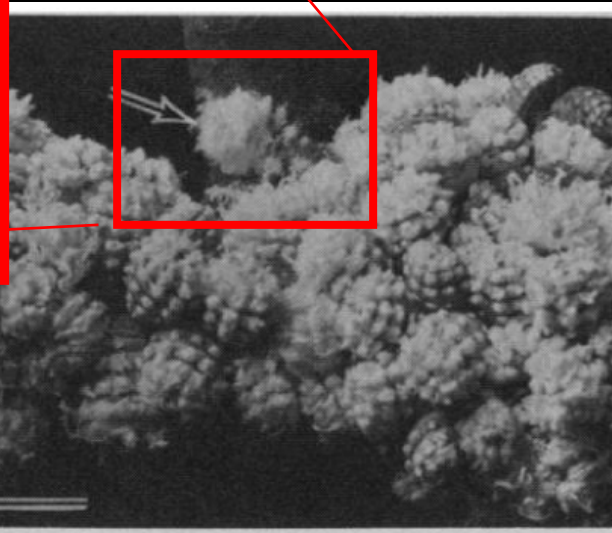
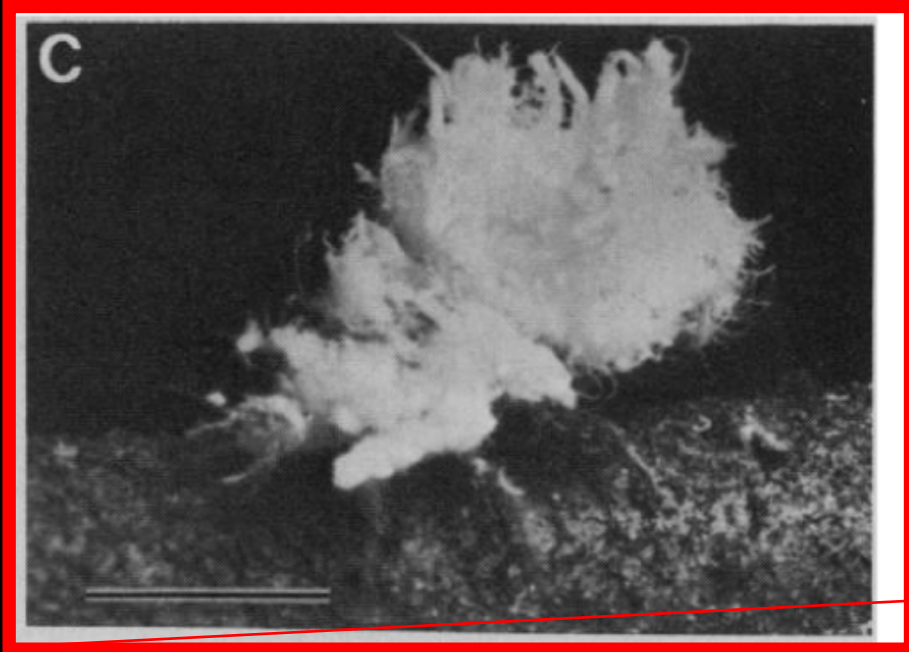


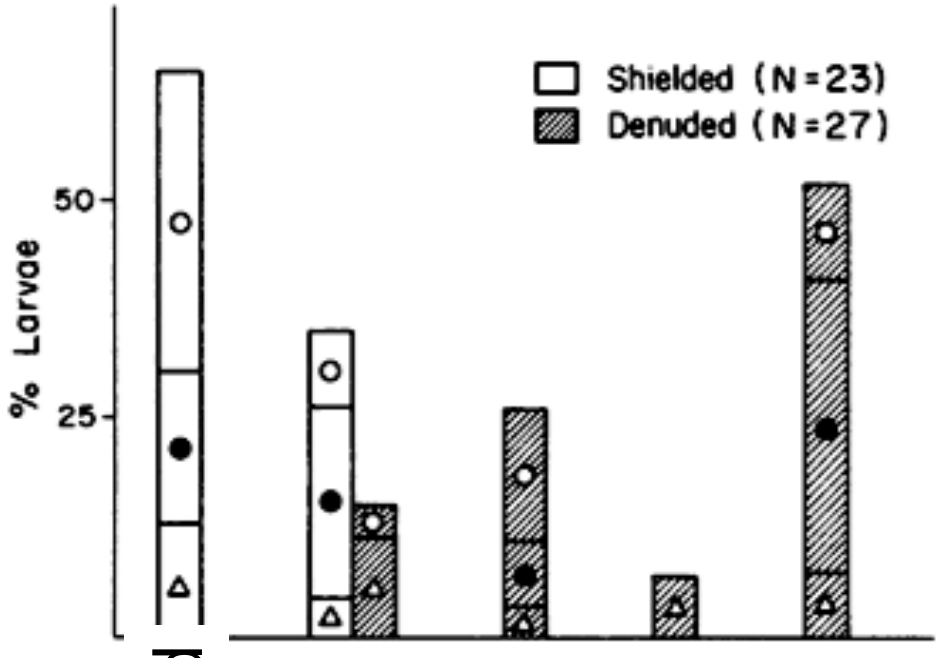
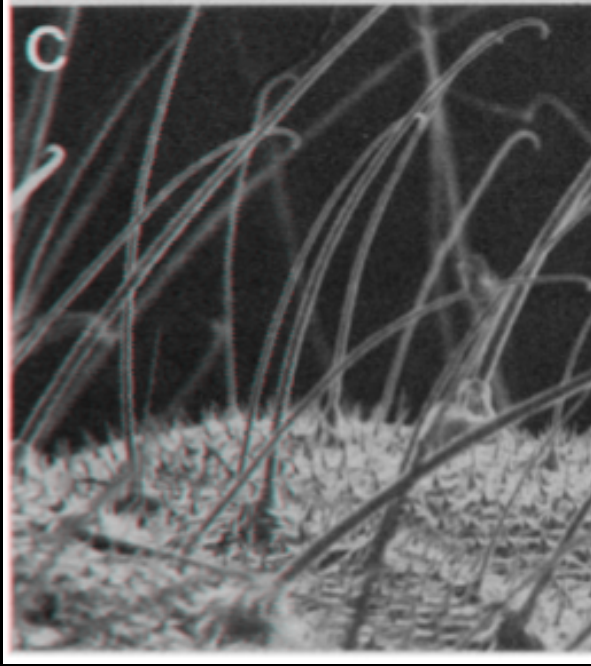
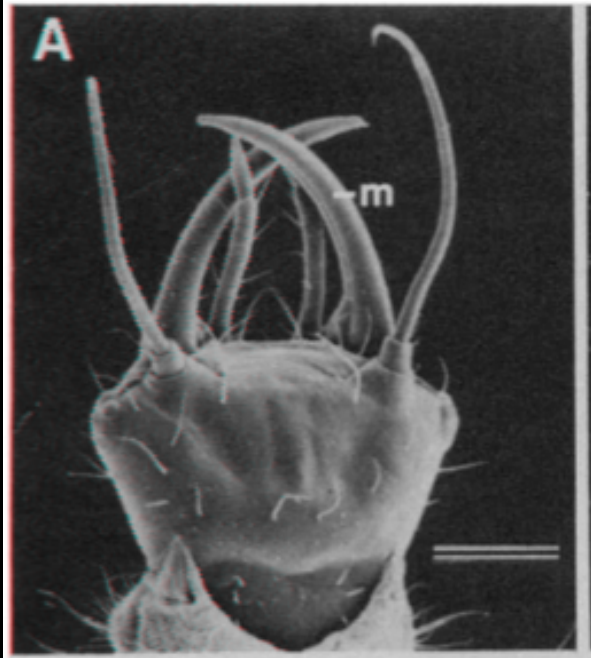
Intruder Defense





“Wolf-in-Sheep’s-Clothing” Strategy of a Predaceous Insect Larva





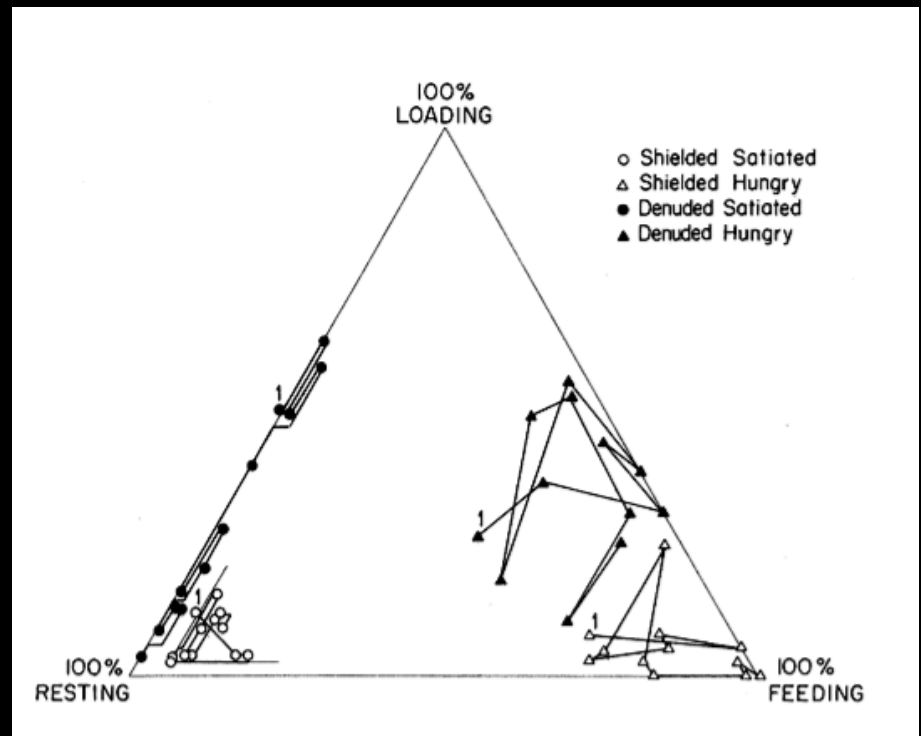
Inspected and released

Bitten and released

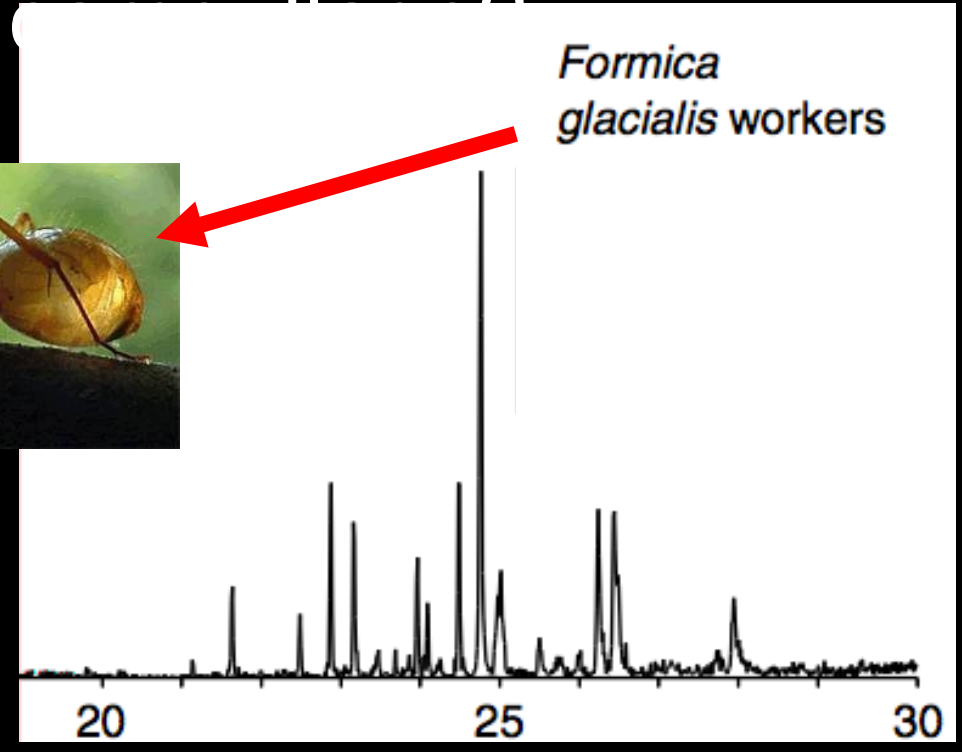
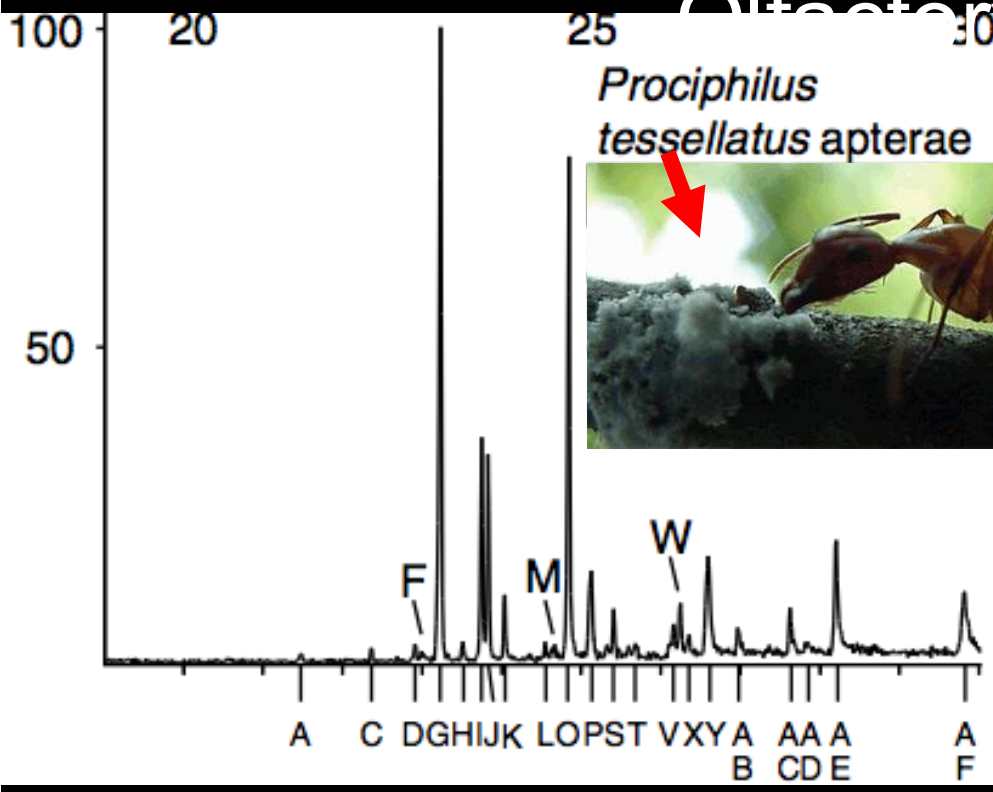
Carried to ground

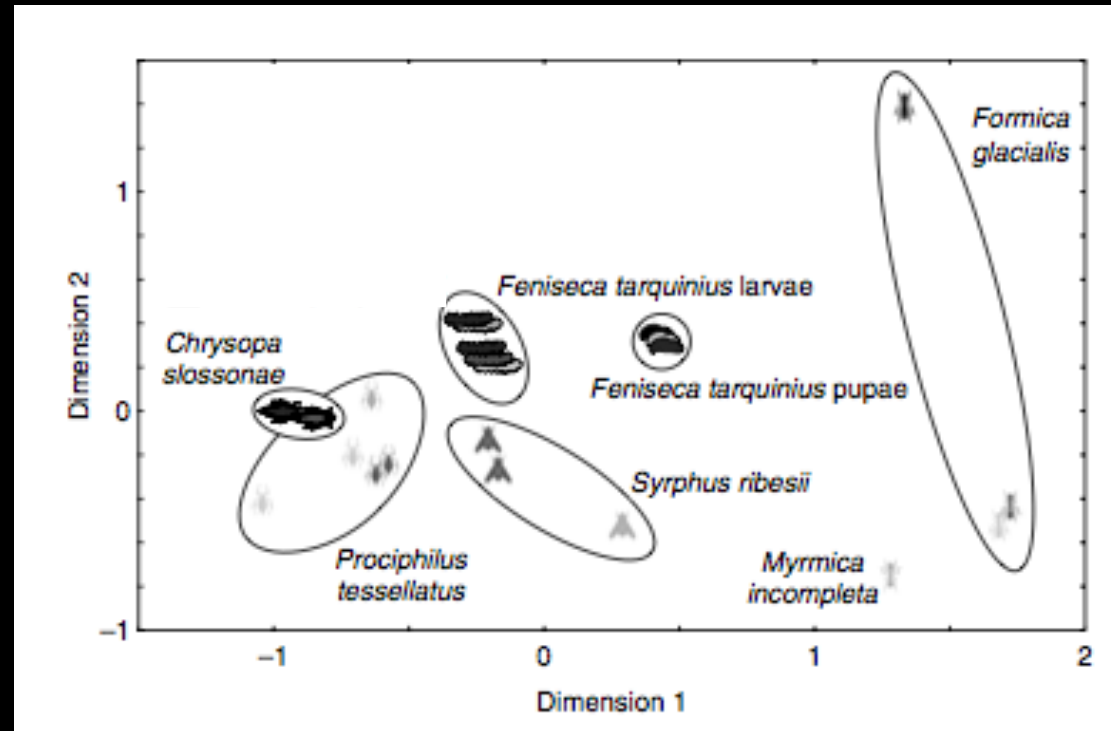
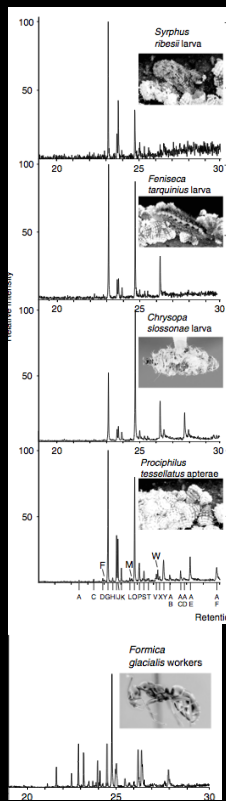
Grasped and fallen

Grasped and dropped



Olfactory

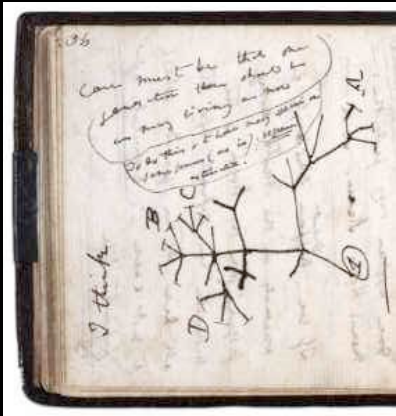




ON
THE ORIGIN OF SPECIES
BY MEANS OF NATURAL SELECTION,



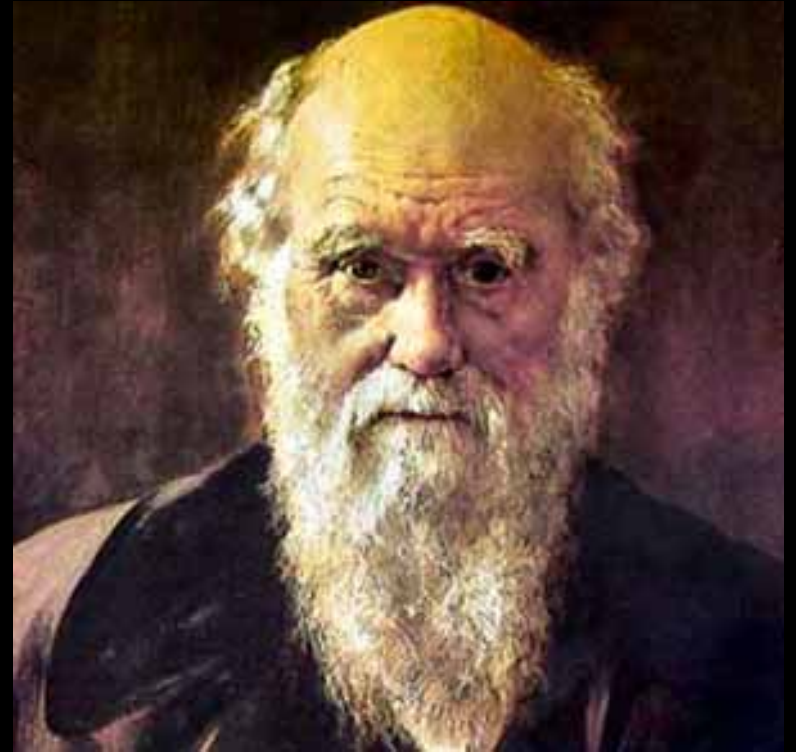
LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1859.
The right of Translation is reserved.



Darwinian Puzzle (Paradox)

Descent with Modification

Traits are passed down from generation to generation, from species to species, and are modified by selection during the process



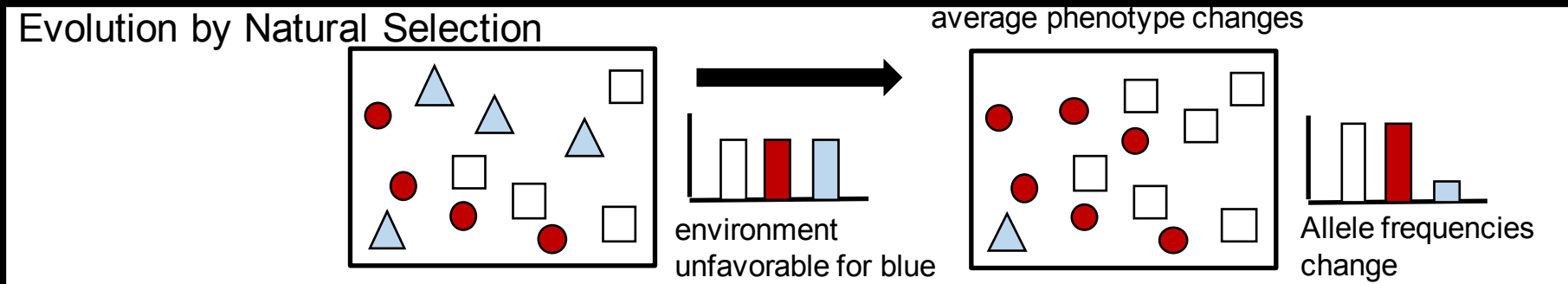
What is LRF?
What is adaptation?

Selection

- ***Selection***: A process that favors traits which enhance an individual's ability to survive and reproduce.
- ***Fitness***: The number of offspring an individual contributes to the next generation relative to other members of the population.
- ***Evolution***: A change of allele frequencies between generation.

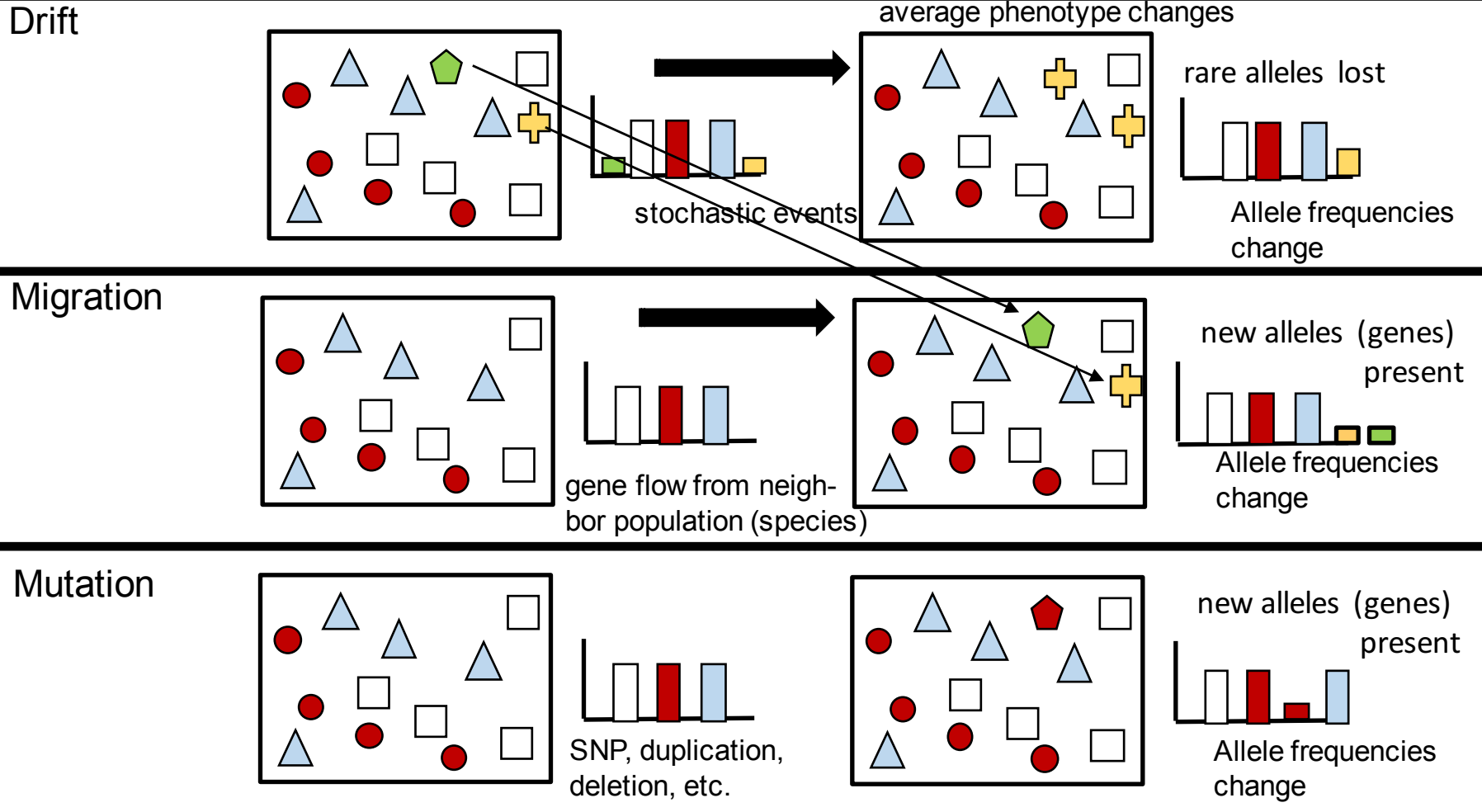
Selection and Evolution

1. There needs to be phenotypic variation
 2. Some variants have greater Darwinian fitness
 3. There is a heritable basis to the variation
- The alleles related to the favored phenotype increase in the populations and the mean average phenotype in the population changes compared to the previous population



Do you need to have selection to see evolution?

Evolution without Selection



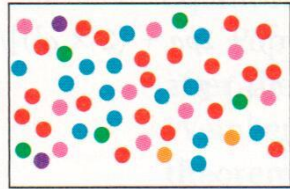
Do you need to have selection to see evolution?

Is evolution happening whenever you see change?

Mechanism

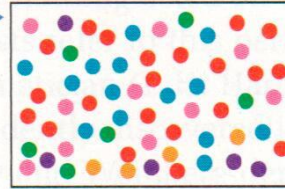
Hardy-Weinberg equilibrium
(no evolution)

Ancestral population



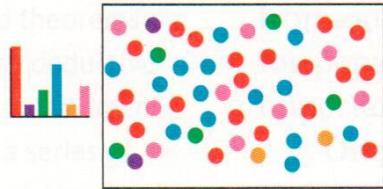
Random mating.
No migration,
genetic drift,
mutation, or
natural selection.

Later Population

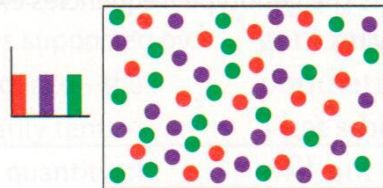
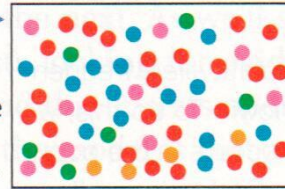


Result

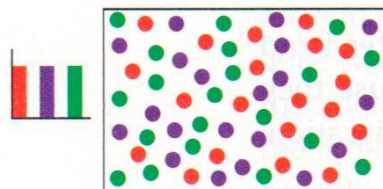
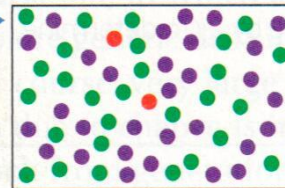
Allele frequencies do not change.



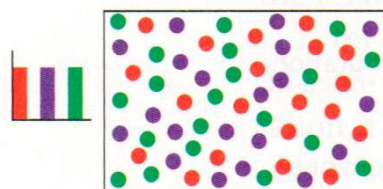
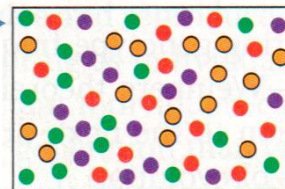
Random mating.
No migration,
genetic drift,
mutation, or
natural selection.



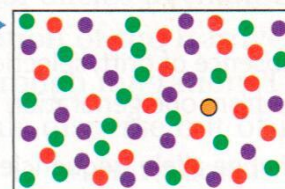
Random mating.
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Random mating.
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genetic drift,
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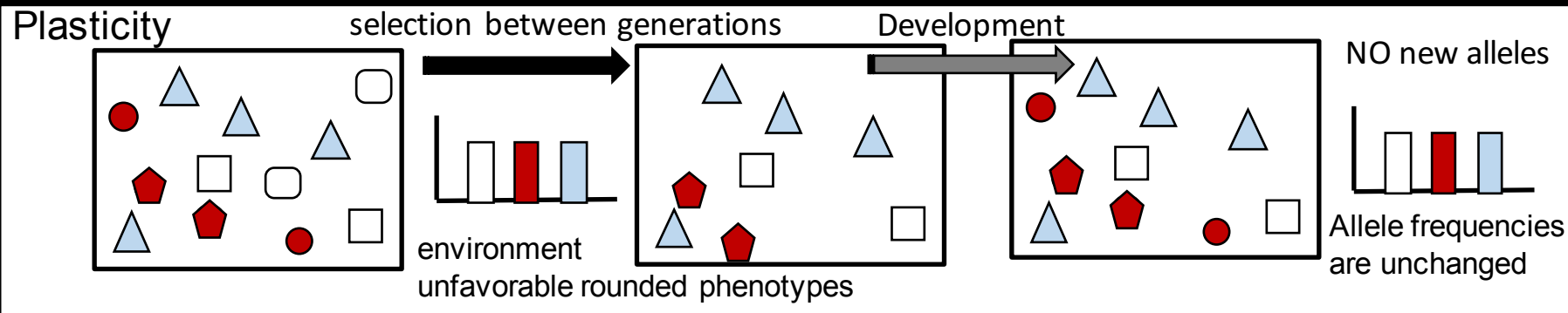


Random mating.
No migration,
genetic drift,
mutation, or
natural selection.



Selection and No Evolution

- Some phenotypic variants are favored by selection, they survive and reproduce better.
- But there is no genetic basis to this variation, the variation among individuals is due to the environment or experience not genes.



Do you need to have selection to see evolution?

Is evolution happening whenever you see change?