Biology

Biology research have provided great insights to the field and to the society by understanding the relationship between living organisms and nature.

Here are some examples of biology research and discoveries which was important to biology as a branch.

Many of the examples are from evolutionary biology, but we are planning to add more biology experiments later on.

Biology Experiments and Discoveries

Law Of Segregation[1] - The Mendel Pea Plant Experiment
Mendel noticed that certain characteristics appeared to be passed on from parents to offspring, in many species, and wondered why this was so. He tested his ideas, using pea plants.

Darwin brought back many samples from the Galapagos, and thought that the finches found across the different islands making up the group, were all different species. Then he made a remarkable discovery.

**Industrial Melanism[^3]** - How Human Contamination Evolved the Peppered Moth

The industrial revolution across Europe and North America, and the burning of coal, led to every surface, in certain areas, being covered with black soot. So animals evolved to get camouflage from the contamination.

**Red Queen Hypothesis[^4]** - The Evolutionary Arms Race between Prey and Predator

The basis for the entire theory is down to 'the evolutionary arms race', where prey and predator constantly evolve together to reach some sort of uneasy balance.

**Transforming Principle[^5]** - Griffith's Experiment About Genetics

Long before DNA was known, Frederick Griffith, established that there was a transforming principle in bacterial genetics in a ground-breaking experiment. He postulated that information could somehow be transferred between different strains of bacteria.

**Identical Twins Study[^6]** - Measuring Effects from Environment and Genetics

Identical twins studies has been used for a long time, to study the effects of environment and genetics on human development. Genetics and environmental factors contribute to intelligence, aggression or substance addictions are some subjects.

### History of Biology

- Aristotle's Zoology[^7]
- Islamic Scholars and Biology[^8]

### Zoology

#### Basic Concepts

- Ecology[^9]
- Biodiversity & Extinction[^10]
- Animals Behavior[^12]

#### Aspects of Zoology

- Predator-Prey Relationships[^13]
- Reproduction - Sexual[^14]
- Reproduction - Asexual[^15]
- The Selfish Gene & Altruism[^16]
- Social Insects & Animals[^17]
- Animal Intelligence & Learning[^18]
- Unique Skills[^19] (Radar, Infrared sensors, etc.)
• Migration [20]
• Camouflage & Mimicry [21]
• Specialization [22]
• Tool Usage [23]
• Parenting [24]
• Defense Mechanisms [25]
• Unique Adaptations [26]

The Animals

• Invertebrates [27]
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