

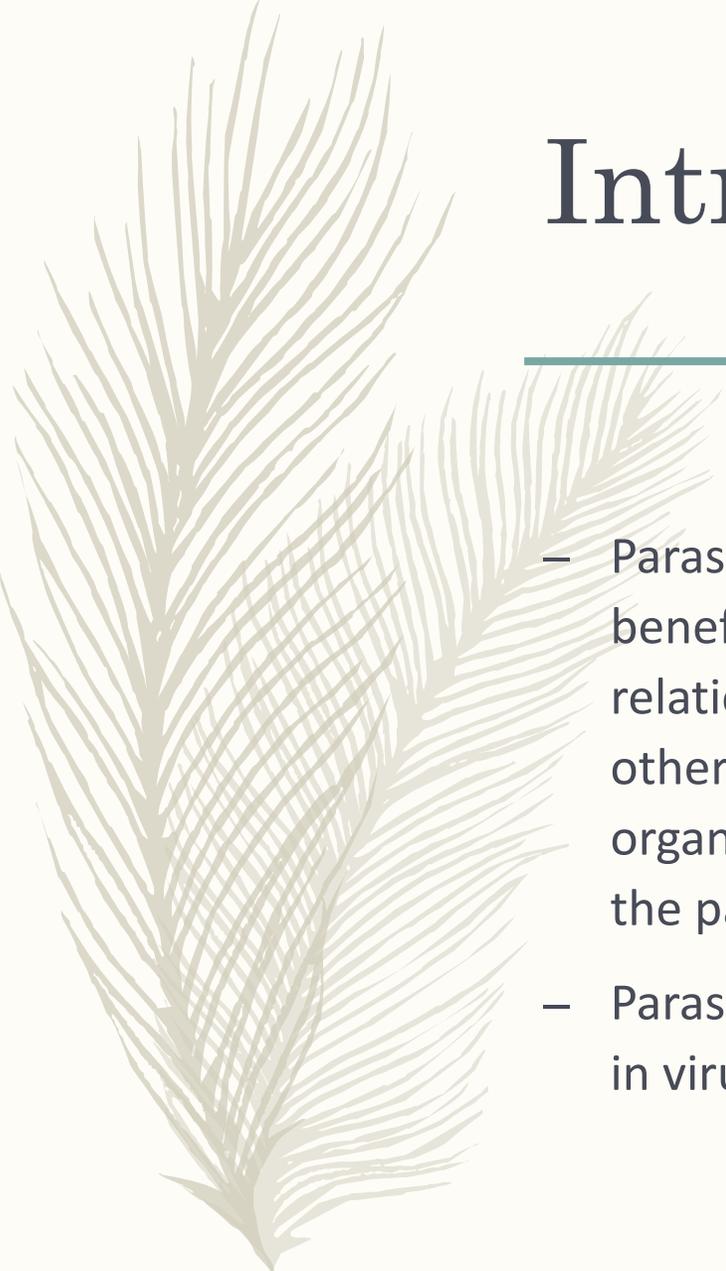


# Parasitism

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B.Sc. Part I Paper: I Group: A, Animal Diversity

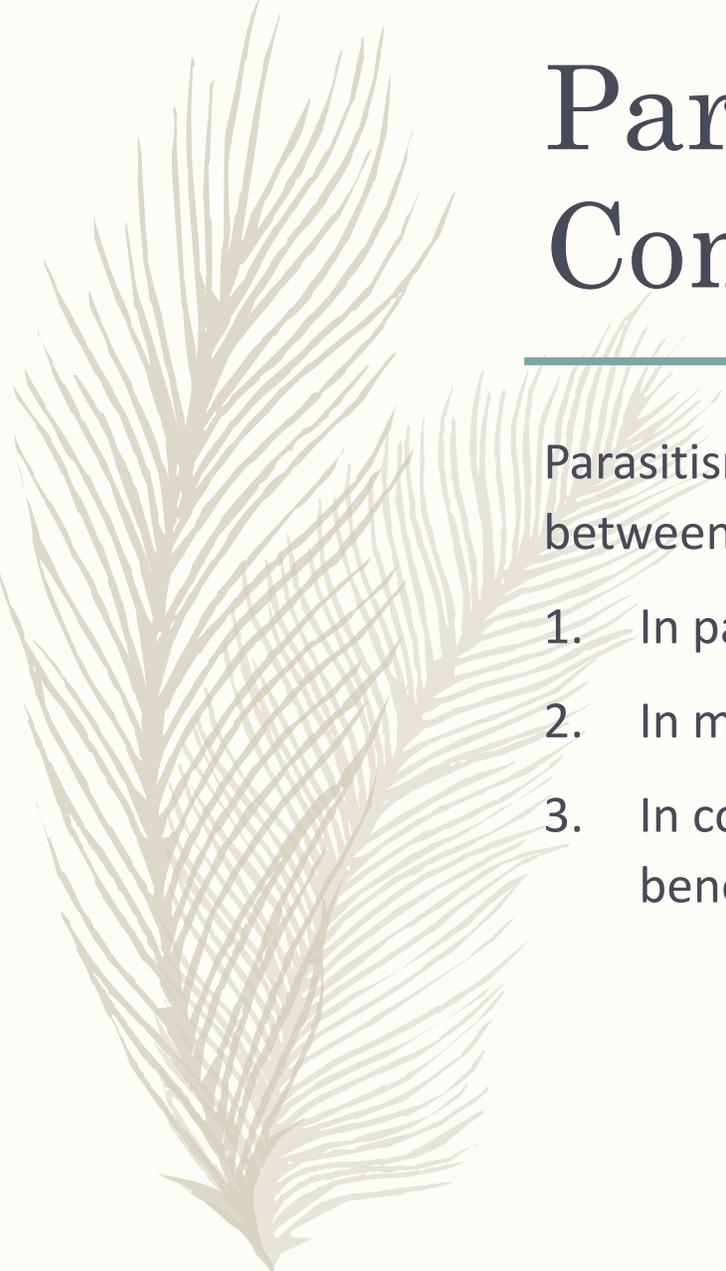
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# Introduction

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- Parasitism is a type of association between two organism in which one organism benefits at the expense of another organism or it can be defined as a relationship between two species in which one organism lives on or inside the other organism, the organism which lives on other is called parasite, and the organism on which these parasites lives is called hosts. This association helps the parasite for food, shelter, growth, reproduction etc
- Parasitism is seen in many taxonomic groups, parasitic life style have been seen in viruses, bacteria, protozoa, invertebrate and vertebrate metazoan.



# Parasitism, Mutualism and Commensalism

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Parasitism, mutualism and commensalism are three types of symbiotic relationship between organisms.

1. In parasitism, one species benefits at the expense of other.
2. In mutualism, both species benefit from the interaction.
3. In commensalism, one species benefits, while the other is neither harmed nor benefitted.



# Host

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Host are the organism on which the parasites live. In most of the cases they provide vital nutrients to the parasite needed for its survival. It also provide a safe shelter to the parasite.

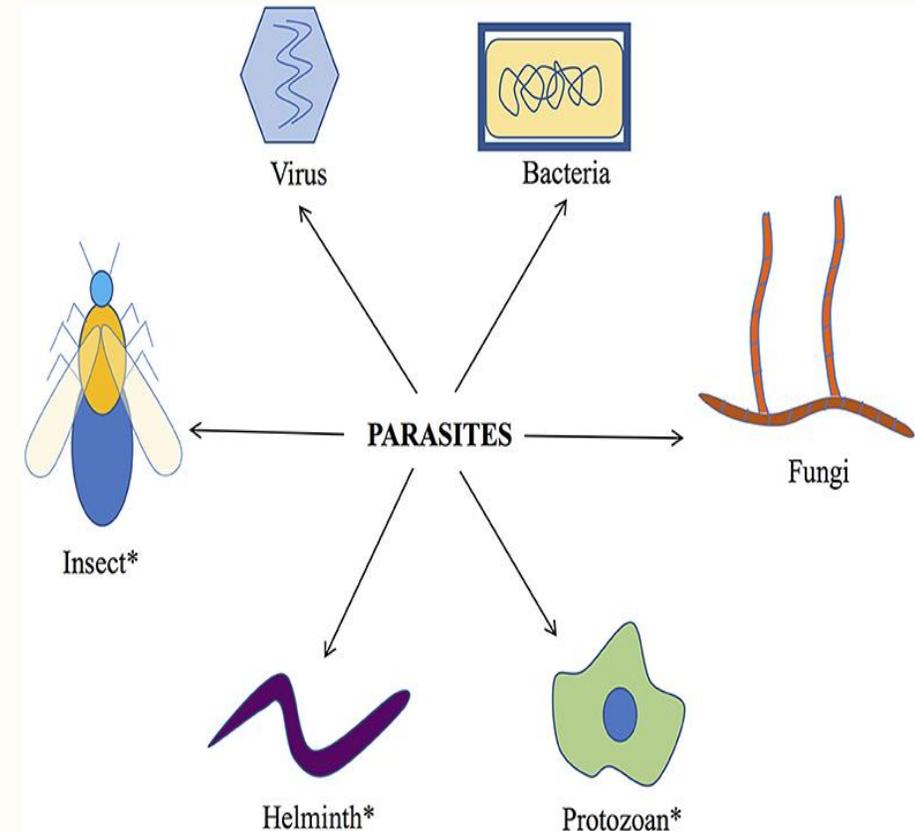
## Types of host:-

1. **Definitive host-** The host in which the sexual reproduction of the parasite takes place.
2. **Intermediate host-** A host which is normally used by a parasite in the course of its life cycle and in which it may multiply asexually but not sexually.
3. **Transfer or Paratenic host-** An intermediate host whose presence may be required for the completion of a parasite life cycle but in which no development of the parasite occurs.

# Types of Parasites

There are various ways to classify parasites-

1. Based on position
2. Degree of dependence
3. Duration





# Parasites based on position

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## Ectoparasite

Ectoparasites are the parasites living outside the organism and takes advantage of the elements that are available in the outermost layers of the host.

E.g. Head louse fleas and ticks.

## Endoparasite

endoparasites are the parasites that lives inside the host. This is the most common relationship.

An example of this is tapeworms, *Ascaris lumbricoides* And other worms that can be found in the intestinal tract.

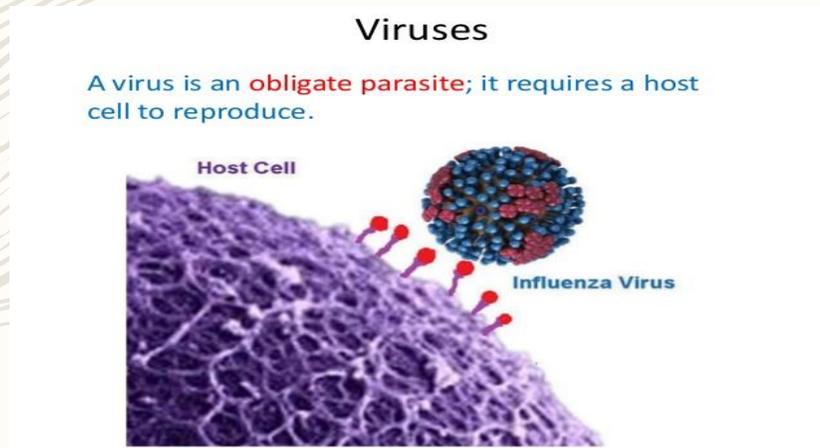
# Degree of dependence

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## Obligatory parasite

These are the parasites which totally depends on others for survival.

E.g. viruses, etc.



## Facultative parasite

These are the parasites that lives independent of a host but may occasionally be parasitic under certain conditions.

E.g. Armillaria mellea, etc.



# Based on duration

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## Temporary

These parasites spend only part of their lives as parasite and another part as free living organism.

E.g. *Fasciola hepatica*, etc.



## Permanent

These parasites lead entire life in other organism. Have no free living stages.

E.g. *Trichina worm*, etc.

