

HOST-PARASITE RELATIONSHIPS

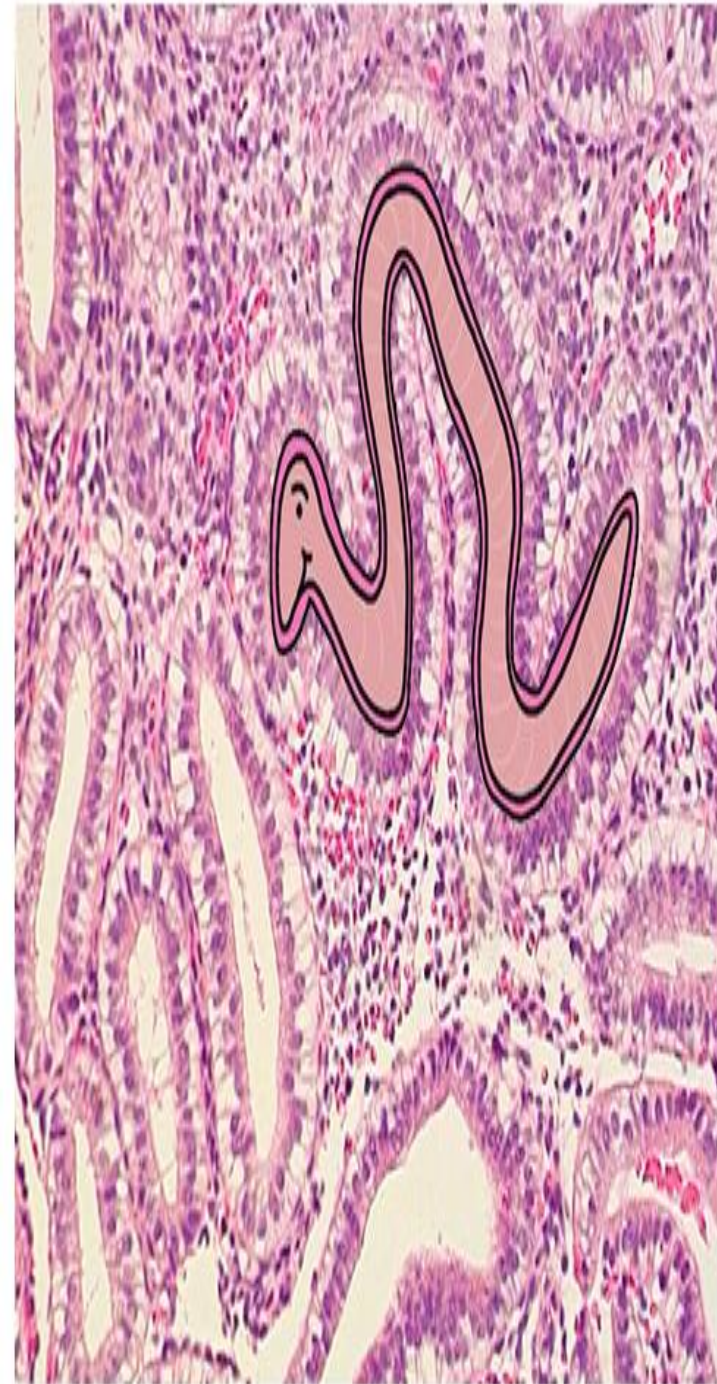


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HOST-PARASITE RELATIONSHIPS

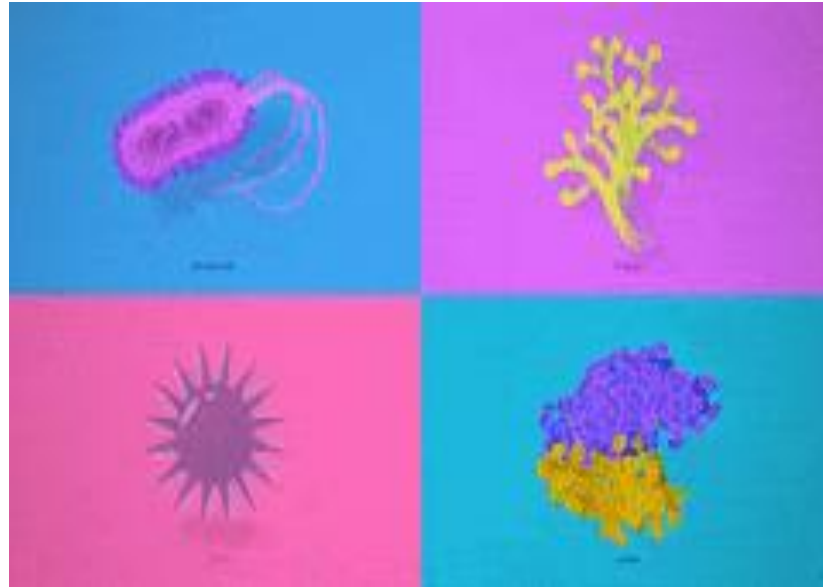
PARASITE

An organism that lives in or on an organism of another species (its host) and benefits by deriving nutrients at the other's expense. Parasites include multi-celled and single-celled animals, fungi, bacteria, and some authorities also include viruses. Those that feed upon human hosts can cause diseases



PATHOGEN

A bacterium, virus, or other microorganism that can cause disease



CLASSES OF PARASITES

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graph TD; A[CLASSES OF PARASITES] --> B(Ectoparasites); A --> C(Protelean); A --> D(Endoparasites); B --> B1[Lives on the surface of its host]; C --> C1[Are insects in which only the immature stages are parasitic]; D --> D1[Lives inside the body of its host];
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Ectoparasites

Lives on the surface of its host

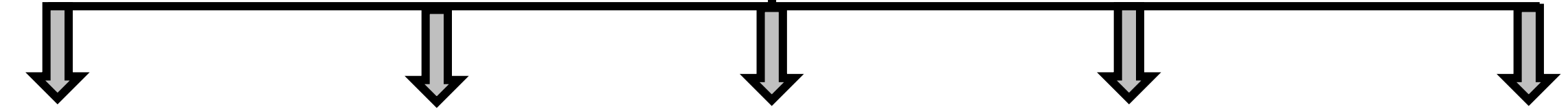
Protelean

Are insects in which only the immature stages are parasitic

Endoparasites

Lives inside the body of its host

CLASSES OF PARASITES



Facultative

Obligate

Accidental

Permanent

Temporary

Not normally parasitic but can become when accidentally eaten or enter the body orifice

e.g
Naegleria fowleri

Cannot complete their life cycle without spending at least part of time in a parasitic relationship

Enters or attaches to body of specie of host different from normal one

Live their entire adult lives within or on their hosts

Usually prey on several different hosts

e.g
Bed bug

CLASSES OF HOSTS

DEFINITIVE

In which parasite reaches sexual maturity

e.g

Mosquitoes

INTERMEDIATE

Requires for parasite development

e.g

Vertebrates

TRANSPORT

In which parasite remains alive and infective to another host

e.g

Owls

RESERVOIR

Harbors an infection that can be transmitted to humans

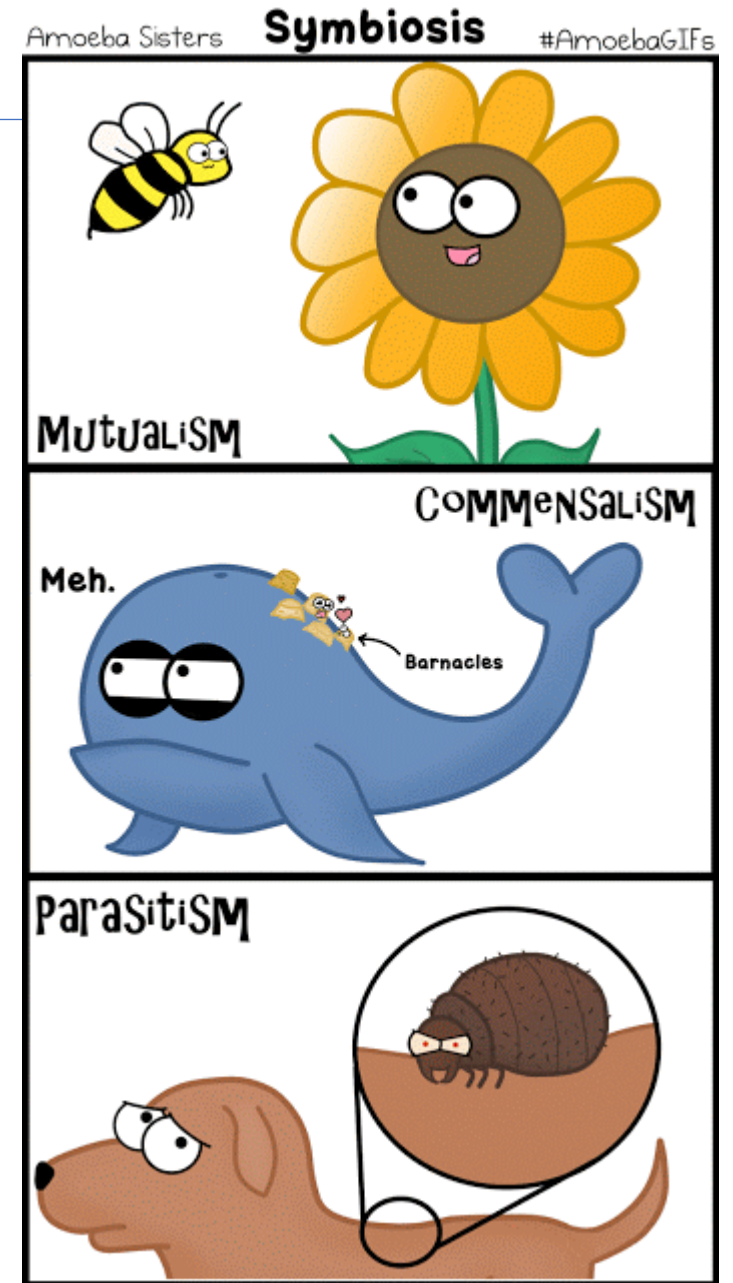
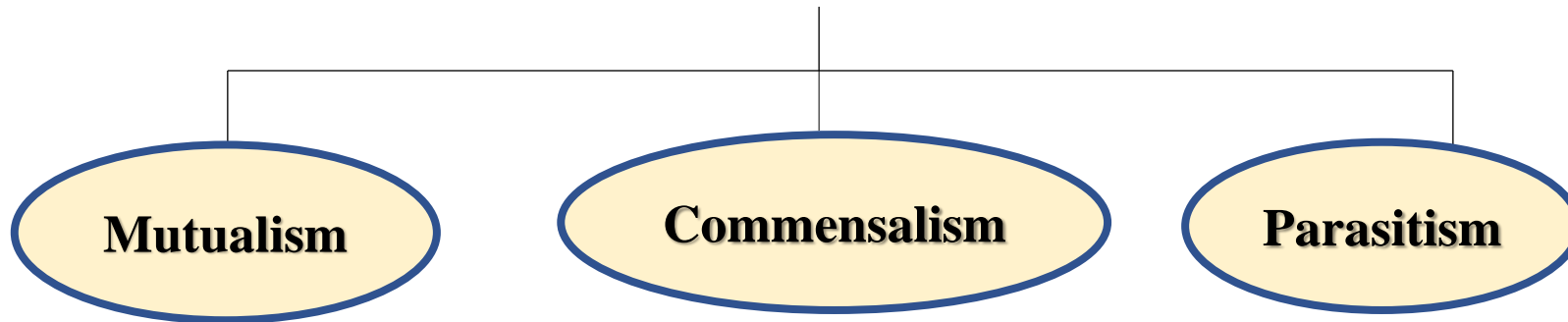
e.g

Rats

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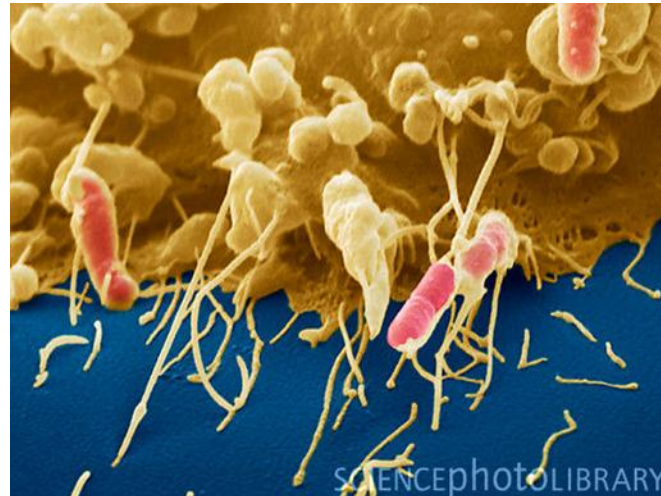
SYMBIOSIS

Type of a close and long-term biological interaction between two different biological organisms. The organisms, each termed a symbiont, may be of the same or of different species



MUTUALISM

- A relationship in which both species benefit
- At this very moment, you are in a mutualistic relationship with a population of bacteria in your large intestine. *Escherichia coli* lives in most mammals to break down food that mammals cannot digest. Bacteria gets food and a place to live and we benefit as well!



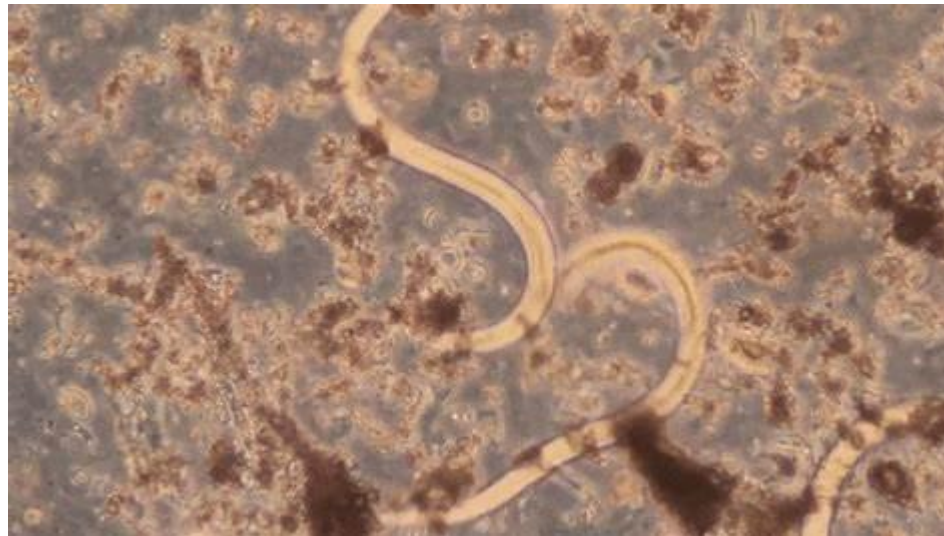
COMMENSALISM

- A relationship in which one species benefits and the other species is neither harmed or helped
- Example: Elf owl creating small hole for nest in the cactus



PARASITISM

Relationship between two species of plants or animals in which one benefits at the expense of the other, sometimes without killing the host organism



ATTRIBUTES OF PATHOGENIC PARASITES

Direct Physical and Chemical Damage

Induction of Neoplastic Changes

Tissue Damage by Immunological Mechanisms

TYPE I

Immediate Hypersensitivity

TYPE II

Complement Mediated Cytolytic Reactions

TYPE III

Immune Complex Reactions

TYPE IV

Delayed Hypersensitivity

NON-SPECIFIC DEFENCE

Physical Barriers

Phagocytes

Complement

**Inflammatory
Response**

SPECIFIC DEFENCE

Immunity

Innate

Acquired

THANK YOU