

ECOLOGY AND TOXICOLOGY

ANIMAL RELATIONSHIPS

I B.SC ZOOLOGY

UNIT I



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ASSOCIATIONS

- Plants – Plants
- Plants – Animals
- Animals - Animals

CLASSIFICATION

- Intraspecific relationship
- Interspecific relationship

INTERSPECIFIC RELATIONSHIP

- *Neutralism*

- *Symbiosis*

- Commensalism
- Mutualism

- *Antagonism*

- Antibiosis
- Parasitism
- Predation
- Competition

NEUTRALISM

- No species is affected



SYMBIOSIS

No partner is harmed. One or both the partners are benefited.

COMMENSALISM

- Only one partner is benefited

MUTUALISM

- Both partners are benefited

COMMENSALISM

- Temporary commensalism

Sucker fish and Shark (Ectocommensalism)



Chaetopterus and Crab

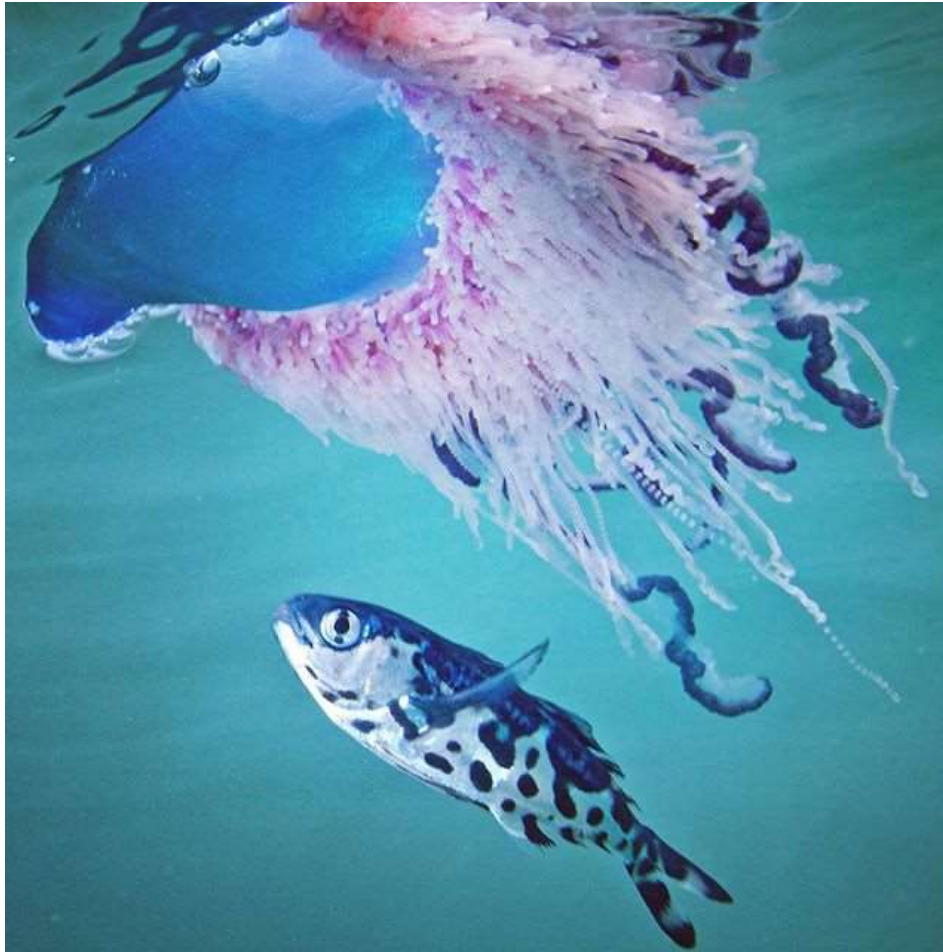


Permanent commensalism

Lichens



Physalia and Nomeus



Clown fish and Sea-anemone



MUTUALISM

Both partners are benefited
Hermit crab and sea-anemone



Rhizobium and leguminous plants



Birds and grazing animals



Crocodile and crocodile bird



ANTAGONISM

When one or both the partners are harmed.

1.ANTIBIOSIS

One partner kill the other.

examples:

- *Pencillium-pencillin*
- *Chlorella vulgarus-chlorellin*

2. PARASITISM

One is benefited at the expense of the other.

- *Ectoparasite*: Living on the outer surface of the host. Eg. ticks,lice.
- *Endoparasite*: Lives inside the body.
Eg.Ascaris.

Parasitic adaptations

- Thick cuticle
- Antienzymes
- Loss of sense organs
- Loss of locomotary organs
- Loss of alimentary canal
- Loss of digestive glands
- Parthenogenesis
- Polyembryony

3.PREDATION

One animal kills and devours other animals for food.

All animals and insectivorous plants are predators. Man is also a predator. Predators are of two types,

Herbivores

Carnivores

HERBIVORES

- Predators which eat plants



CARNIVORES

- Tiger chasing deer



4.COMPETITION

Rivalry between two animals for a common resource.

- *Intraspecific competition*- between members of same species.
- *Interspecific competition*- between members of different species.

Successful survival depends on the intimacy of associations.

