

Habitat

A place, where an organism is adapted to live, grow and reproduce

E.g. grasslands, mountains, deserts, etc.

Niche

Niche describes the physical space occupied and the functional role played by an organism in an ecosystem

Eurythermal

Organisms, who can tolerate a wide range of temperatures

Stenothermal

Organisms, who can tolerate a narrow range of temperatures

Euryhaline

Organisms, who can tolerate a wide range of salinity

Stenohaline

Organisms, who can tolerate a narrow range of salinity

Regulators

Organisms, who have the capability of thermoregulation and osmoregulation by physiological or behavioural means and maintain homeostasis

E.g. Birds, mammals, some lower vertebrates and invertebrates

Conformers

They cannot maintain a constant internal environment

Internal temperature and osmotic pressure changes with the ambience

E.g. 99 percent of animals and all the plants

Migration

Temporary migration to avoid a short time period of unfavourable conditions

E.g. Siberian cranes migrate to Keoladeo National Park (Bharatpur, Rajasthan)

Suspension

Temporary reduction of metabolic activity and a dormant state to survive unfavourable conditions

E.g. thick-walled spores, dormant seeds

Hibernation

A temporary state of inactivity to avoid winters

E.g. polar bears, bats, etc.

Aestivation

A temporary state of inactivity to avoid summers

E.g. snails, fishes, amphibians, reptiles

Diapause

A suspended state in unfavourable conditions

E.g. zooplankton

Endotherms

Animals, which regulate their internal temperature by internal metabolic processes.

E.g. birds and mammals

Ectotherms

Animals, which depend on external heat resources for regulating internal temperature

E.g. amphibians, reptiles, invertebrates

Homeotherms

Their body temperature remains constant and have a narrow range of temperature

E.g. birds and mammals

Not all homeotherms are endothermic, e.g. desert lizards

Poikilotherms

Their body temperature varies with the surrounding environment

E.g. fish, reptiles, amphibians

They are mostly ectothermic

Allen's Rule

It states that the surface area to volume ratio of animals' bodies vary with the habitat they are adapted to

E.g. Animals adapted to colder climates have shorter limbs and ears to reduce heat loss

Population

A group of interbreeding individuals living in a geographical area and competing for similar resources

Population density

A measure of population size

A number of individuals residing in an area. It can also be measured in terms of biomass or per cent cover

Mostly estimated, e.g. tiger census is based on pug marks and fecal pellets, fish caught per trap, etc.

$$N_{t+1} = N_t + [(B + I) - (D + E)]$$

Increase in population density

Natality (B)- number of births in a given time period

Immigration (I)- number of individuals come into the habitat

Decrease in population density

Mortality (D)- number of deaths in a given time period

Emigration (E)- number of individuals left the habitat

Predation

A common mechanism of feeding in an ecosystem

Killing and eating an animal or plant

E.g. Herbivores, carnivores, etc.

Parasitism

Depending on a living organism for food and shelter

One is harmed and another is benefited

E.g. ectoparasites- lice, ticks, cuscuta on hedge plants

endoparasites- liver fluke, various microbes

Brood parasitism

A bird laying its egg in another bird's nest

E.g. cuckoo leaves its eggs in crow's nest

Competition

Competition between two closely related or unrelated species for common resources

Competitively inferior species may get eliminated

E.g. flamingoes compete with zooplankton in lakes

Mutualism

Interaction, where both the species are mutually benefited

E.g. lichens, mycorrhiza, pollinating insects and flowers, fig and wasp, etc.

Commensalism

Interaction between two species, where one is benefited and the other is neither harmed nor benefited

E.g. Orchid is an epiphyte on a mango branch, cattle egrets, clownfish and sea anemone

Amensalism

Interaction between two species, where one species is harmed and another remain unaffected

E.g. black walnut secretes a substance, which kills herbaceous plants, *Penicillium* kills bacteria due to penicillin secretion, grazing by cattle