

❖ Ecology of Communities

Interactions between Species

Competition

When two or more species compete for a particular resource.

Beech and oak trees in a mixed wood in England compete for minerals and water in the soil.

Swifts and swallows both feed on insects flying in the air.

Herbivory

A primary consumer feeding on a plant or its products.

Leaf-cutter ants in the rainforests of Costa Rica.

A three-toed sloth in the rainforests of Costa Rica.

Predation

A predator killing its prey.

A kestrel kills mice and voles.

The brown bear in Canada kills sockeye salmon when they come up river to spawn.

Mutualism

A relationship between two different species where both species have some degree of physiological dependency on one another and benefit from the relationship.

Trees of the species *Acacia cornigera* have large hollow thorns. In these live ants of the genus *Pseudomyrmex*, which only live here. The tree has specialised glands that provide food for the ants and in return the ants eat or drive off herbivores such as caterpillars and other leaf-eating insects, as well as large mammals by biting and stinging them.

The guts of termites contain protozoa that produce the enzyme cellulase. Without the cellulase the plant material the termites feed on could not be digested. The protozoa only survive in the anaerobic environment of the termite gut.

Parasitism

A relationship between two different species where only one species benefits and the other is usually harmed.

Trypanosoma cruzi is a protozoan that lives in the blood of humans and causes the disease called sleeping sickness.

Scabies is a disease caused by mites of the genus *Sarcoptes* that live and feed on the skin of mammals.