

A Short Note on Parasitism

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Perspective

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DESCRIPTION

Parasitism is a close relationship between species in which one organism, the parasite, lives on or inside the host, harming it, and is structurally adapted to do so. According to entomologist Wilson, parasites are predators that eat prey in units of fewer than one. Parasites include single-celled protozoans that cause malaria, sleeping sickness, and amoebic dysentery, as well as animals such as hookworms, lice, mosquitoes, and vampire bats, fungi such as honey fungus and ringworm agents, and plants such as mistletoe, dodder, and broomrapes. Parasitic castration, directly transmitted parasitism (through contact), trophically transmitted parasitism (by being eaten), vector-transmitted parasitism, parasitoidism and micropredation are the six basic parasitic techniques for exploitation of animal hosts.

Parasitism is a sort of consumer-resource interaction similar to predation, but unlike predators, parasites, with the exception of parasitoids, are normally considerably smaller than their hosts, do not kill them, and often remain in or

on them for long periods of time. Animal parasites are highly specialized and proliferate more quickly than their hosts. Interactions between vertebrate hosts and tapeworms, flukes, malaria-causing *Plasmodium* species, and fleas are all classic examples.

Parasites impair host fitness through a variety of pathologies, ranging from parasite castration to host behavior change. Parasites improve their own fitness by obtaining resources from hosts, particularly by feeding on them, and by utilising intermediate (secondary) hosts to aid in the transfer of their parasites from one definitive (primary) host to another. Although parasitism is typically clear, it is part of a continuum of interactions between species that progresses from parasitoidism to predation, mutualism to evolution, and, in some fungi, saprophytism.

Parasitism is a type of symbiosis in which a parasite and its host have a tight and long-term biological relationship. Parasites, unlike saprotrophs, feed on living hosts, however some parasitic fungi, for example, may continue to feed on dead hosts. Unlike commensalism and mutualism, parasitism causes harm to the host by either feeding on it or devouring some of its food, as in the case of intestinal parasites. Because parasites interact with other animals, they can easily act as disease vectors and spread infections.

Parasites are classified by taxonomists into a range of overlapping schemes based on their interactions with their hosts and their sometimes complicated life cycles. The life cycle of a facultative parasite is not dependent on the host, but the life cycle of an obligatory parasite is. "Direct" life-cycles involve only one host; "indirect" life-cycles involve a definitive host (where the parasite reproduces sexually) and at least one intermediate host. An endoparasite resides inside the host's body, whereas an ectoparasite dwells on the surface of the host.

Mesoparasites, such as some copepods, penetrate an opening in the host's body and become partially entrenched. Some parasites are generalists, feeding on a variety of hosts, while many parasites, including the vast majority of protozoans and helminths that parasitize mammals, are specialists with a narrow host range. Microparasites and macroparasites were classified as microparasites and macroparasites in an early functional split of parasites. In order to analyse the population movements of the host-parasite groupings, each of them was allocated a mathematical model. Microparasites are bacteria and viruses that may replicate and complete their life cycle within the host. Multicellular organisms that reproduce and complete their life cycle outside of or on the host's body are known as macroparasites.

Parasitism has primarily focused on animal parasites that live on land, such as helminths. Those in other environments and with different hosts frequently use similar tactics. The snubnosed eel, for example, is most likely a facultative endoparasite (i.e., a semiparasitic) that burrows into and eats sick and dying fish. Plant-eating insects like scale insects, aphids, and caterpillars are similar to ectoparasites in that they target much bigger plants and act as carriers for bacteria, fungus, and viruses that cause plant diseases. Female scale insects are obligatory parasites, meaning they are permanently linked to their hosts since they are unable to move.