



Features and Trends in the Development of Parasitology

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DESCRIPTION

Parasitology is the study of animal and plant parasitism as a biological phenomenon. Parasitology also deals with many topics including morphology, taxonomy, biology, behavior, life cycle, etiology, epidemiology, ecology, physiology, biochemistry, genetics, molecular biology and diagnosis, immunology and treatment of infectious diseases.

Parasite lifestyles are the most common on the planet and represent all major taxa, from the simplest unicellular organisms to complex vertebrates. The number of parasites far exceeds the number of free-living species, as each free-living species has its own parasite species.

Parasitology traditionally involves the study of three major animal groups: parasites, helminths (worms), and arthropods that directly cause disease or act as mediators of various pathogens. Parasites are pathogens that damage the host and feed at the same time. Some organisms, called parasites, are actually symbiotic organisms in that they do not benefit or harm the host (eg colon amoeba). Parasitology originated in zoology, but today it is an interdisciplinary field strongly influenced by microbiology, immunology, biochemistry and other life sciences.

Parasitology has different sub-disciplines:

1. Medical parasitology, which deals with the human parasites and the diseases caused by them.
2. Veterinary parasitology, which deals with animal parasites.
3. Structural parasitology, which studies the structures of proteins from parasites.
4. Quantitative parasitology, which is the quantitative study of parasitism in a host population.
5. Parasite ecology, which studies the ecological impact of parasites

Medical parasitology, one of the major areas of parasitology, is the study of parasites that infect humans. These include plasmodium, the causative agent of malaria, single-celled organisms such as leishmania donovani, the causative agent of

leishmaniasis, and multicellular organisms such as blood-flukes, Bancroft filamentous worms, and necator whiteus. Medical parasitology includes drug development, epidemiological research, and zoonotic research.

Parasites live at the expense of the host, while other symbiotic organisms become mutualists (living with the host for mutual benefit) or symbiotic organisms (living without benefit or harm to the host) can do. Parasites can infect the host's gastrointestinal or circulatory system, invade various tissues and organs, and inhabit the outer surface of the host. Many infections can be asymptomatic, while other infections can cause acute (transient) or chronic (persistent) clinical illnesses of significant severity (mild to fatal).

Parasitic infections include mortality (fetal, neonatal, adult death), morbidity (disease manifested by enteritis, fever, anemia, etc.), production loss includes decreased meat, milk, fiber production and tissue damage of the product. It may cause a decrease in marketability). Despite many advances in the treatment and management of parasites, the infection persists due to many factors, including urbanization (congestion). More intensive agricultural systems, larger animal translocations, further land and sea development, poor sanitation, emergence of parasite resistance, and widespread vector pesticide resistance.

Parasitism must have occurred very early in the history of life on Earth. It was when we learned that primitive microbes survive in other cells that have invaded passively such as phagocytosis or actively such as osmosis. When multicellular organisms with gastrointestinal tracts emerged, they would inevitably (accidentally or intentionally) eat free-living microorganisms and later free-living helminths. The swallowed animals that managed to survive in this new environment would have appreciated the nutritious environment. The energy saved by foraging can be used for breeding and resist the efforts of the host to expel them. Over time, these parasites have become very adaptable to the host's life. They "forgot" how to survive outside. But to be successful, they have not yet produced offspring that can negotiate with the outside world to find new hosts.

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