

Animal Encyclopedia Article

Animal

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Animal

Animals are organisms in the kingdom Animalia. This is one of the five kingdoms (or major divisions) of organisms, the others being: Plantae (plants), Protists (protozoans), Monera (bacteria), and Fungi (fungi). Animals are eukaryotic organisms (i.e., the nuclear material of their cells occurs within a membrane-bounded nucleus). They are composed of numerous cells, which do not have walls made of cellulose. In addition, animals can make voluntary, spontaneous movements, often in response to a sensory perception. Animals require a source of biologically fixed energy for their nutrition, such as the biomass of plants or other animals. The scientific study of animals is known as zoology.

The first animals were multicellular life forms that originated in late Precambrian times (4,600 million to 570 million years ago). However, little is known about these soft-bodied creatures or when they first evolved, because they did not preserve well as fossils. The first definite fossils of animals date from about 640-670 million years ago, by which time phyla of animals already existed. Zoologists are still classifying animals into various groups, but 30-35 phyla are recognized. However, some of these are extinct and are only known from their ancient, fossil impressions.

The simplest of the living (or extant) animals are asymmetric or radially symmetric in shape, and include the Porifera (sponges) and Cnidaria (jellyfish and sea anemones). Bilaterally symmetric animals are somewhat more complex in their anatomy, and include the Platyhelminthes (flatworms) and Nematoda (nematodes). Animals known as coelomates have an enclosed body cavity and include the Mollusca (clams, snails, octopus, and squid), Annelida (segmented worms and leeches), Arthropoda (crustacea, insects, and spiders), Echinodermata (sea urchins and starfish), and Chordata (fish, amphibians, reptiles, birds, and mammals).

Zoologists have given binomial (or scientific) names to about one million species of animals. These scientific names tell us both the genus (the first, capitalized word) and species (the second, lowercased word) of an organism. One example of this nomenclature is our own species, *Homo sapiens*). However, a much larger number of animal species has yet to be discovered (most of these occur in tropical rain forests and the deepest parts of the oceans). In fact, some biologists estimate that there are several tens of millions of undiscovered species of animals, most of which are insects, particularly small species of tropical beetles.