



Mammals (from Latin *mamma* "breast") are vertebrate animals constituting the class *Mammalia* (/məˈmeɪliə/), and characterized by the presence of mammary glands which in females produce milk for feeding (nursing) their young, a neocortex (a region of the brain), fur or hair, and three middle ear bones. These characteristics distinguish them from reptiles and birds, from which they diverged in the late Triassic, 201–227 million years ago. There are around 5,450 species of mammals. The largest orders are the rodents, bats and *Soricomorpha* (shrews and others). The next three are the *Primates* (humans, apes, monkeys, and others), the *Cetartiodactyla* (whales and even-toed ungulates), and the *Carnivora* (cats, dogs, seals, and others).

In cladistics, which reflect evolution, mammals—along with dinosaurs, and by extension, birds—are classified as endothermic amniotes. This trait evolved separately in both cases and is an example of convergent evolution. Mammals are the only living members of the clade *Synapsida*, which together with *Sauropsida* (reptiles and birds) form the *Amniota* clade. The early synapsid mammalian ancestors were *sphenacodont* pelycosaurs, a group that produced the non-mammalian *Dimetrodon*. At the end of the Carboniferous period around 300 million years ago, this group diverged from the sauropsid line that led to today's reptiles and birds. The line following the stem group *Sphenacodontia* split into several diverse groups of non-mammalian synapsids—sometimes incorrectly referred to as mammal-like reptiles—before giving

rise to *Therapsida* in the early Permian period. The modern mammalian orders arose in the Paleogene and Neogene periods of the Cenozoic era, after the extinction of non-avian dinosaurs, and have been among the dominant terrestrial animal groups from 66 million years ago to the present.

The basic body type is quadruped, and most mammals use their four extremities for terrestrial locomotion; but in some, the extremities are adapted for life at sea, in the air, in trees, underground, or on two legs. Mammals range in size from the 30–40 mm (1.2–1.6 in) bumblebee bat to the 30-meter (98 ft) blue whale—possibly the largest animal to have ever lived. Maximum lifespan varies from two years for the shrew to 211 years for the bowhead whale. All modern mammals give birth to live young, except the five species of monotremes, which are egg-laying mammals. The most species-rich group of mammals, the cohort called placentals, have a placenta, which enables the feeding of the fetus during gestation.

Most mammals are intelligent, with some possessing large brains, self-awareness, and tool use. Mammals can communicate and vocalize in several different ways, including the production of ultrasound, scent-marking, alarm signals, singing, and echolocation. Mammals can organize themselves into fission-fusion societies, harems, and hierarchies—but can also be solitary and territorial. Most mammals are polygynous, but some can be monogamous or polyandrous.

Domestication of many types of mammals by humans played a major role in the Neolithic revolution, and resulted in farming replacing hunting and gathering as the primary source of food for humans. This led to a major restructuring of human societies from nomadic to sedentary, with more co-operation among larger and larger groups, and ultimately the development of the first civilizations. Domesticated mammals provided, and continue to provide, power for transport and agriculture, as well as food (meat and dairy products), fur, and leather. Mammals are also hunted and raced for sport, and are used as model organisms in science. Mammals have been depicted in art since Palaeolithic times, and appear in literature, film, mythology, and religion. Decline in numbers and extinction of many mammals is primarily driven by human poaching and habitat destruction, primarily deforestation.

Reference: <https://en.wikipedia.org/wiki/Mammal>