

Mammals: Class Mammalia

Mammals are endothermic (warm-blooded) and all have hair and mammary glands which produce milk. Most of the mammals give live birth, but there are two examples which lay eggs. All mammals have lungs, even the swimming mammals. They all have a diaphragm. Mammals have four-chambered hearts and have internal fertilization. Males and females are separate.

Monotremes (Subclass *protheria* – Latin for “early/before uterus”)

Monotremes are the egg-laying mammals. There are only two monotremes, and they are the duck-billed platypus, and the echidna. They are only found in Australia and nearby islands. They have some features similar to the reptiles, such as the eggs and shoulder positions, and they have a cloaca (general exit opening) similar to the birds and reptiles too.

Echindas somewhat resemble hedgehogs (remember that echino means spiny) and the platypus is a strange furry mammal with a bill like a duck and claws for feet. When explorers sent a stuffed platypus to scientists, they first thought it was a hoax made from the parts of other animals.

After an echidna or platypus hatches, the mother will excrete milk, but it comes out of the skin like sweat. The baby licks the milk from the skin for nutrition.



Marsupials (subclass *theria* – Latin for uterus... many of these have branched uteri)

Marsupials are the pouched mammals. Most of these originate in the areas around Australia. These were thought to split from the other mammals early. While still an embryo, the young crawls out from the mother into her pouch. The inside of the pouch is warm and slimy, and inside there are nipples where the embryo can attach. Common marsupials include the kangaroo, koala, wallaby, and the one that is found in North America, which is the opossum.



All of the other mammals are placental mammals. Here are a few groups and the orders in them.

Small Mammals

* **Rodentia** (squirrels, beavers, pocket gophers, rats, mice, kangaroo rats, dormice, old and new world porcupines, cavies, mole-rats, chinchillas, capybara, pacas, agoutis)

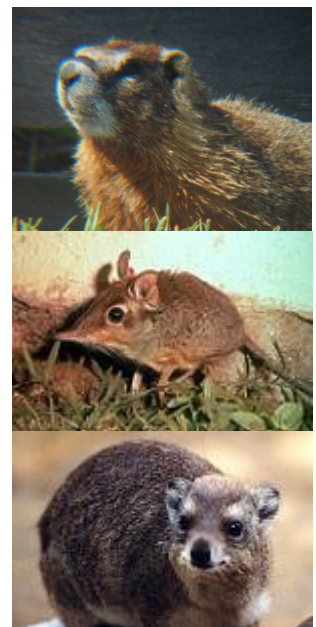
There are about 2000 species of rodents. Most have chisel-like front teeth which are suitable for gnawing. The largest rodents may weigh as much as an adult human.

* **Insectivora** (shrews, moles, solenodons, tenrecs)

Insectivores tend to be very small creatures that primarily eat insects. This group is being constantly re-divided, and many put the hedgehogs, African shrews, short-tailed shrews, tree shrews (formerly primates), and elephant shrews into different orders. All of these groups have similar traits. Orders: Insectivora, Scandentia (tree shrews), Macroscelidea (elephant shrews), Soricomorpha (short-tailed shrews), Afrosoricida (African shrews), Erinaceomorpha (hedgehogs)

* **Hyracoidea (hyraxes)**

Hyraxes are about the size of cats or rabbits. They live in rocks and eat plants and insects.



Large Mammals

- * **Artiodactyla** (swine, peccaries, hippos, camels, llamas, chevrotains, giraffe, okapi, deer, pronghorns, antelope, bison, cattle, goats, sheep, etc.)
This group consists of non-ruminants (don't chew the cud) which are pigs and hippos, the cud chewers with toes which are camels and llamas, and the true cud chewers, such as deer, bovines, and giraffes. All of these have even-toed hooves or feet.
- * **Perissodactyla** (horses, donkeys, zebras, tapirs, rhinos)
Perissodactyla have hooves or feet with odd numbers of toes. A good example of this is the horse. Horses have a single, non-split hoof. Zebras and donkeys are also very typical. Two other groups are the rhinos, which have feet with three toes, and the tapirs. Tapirs look like a long-snouted pig. They are not related to the pigs or to the elephants.
- * **Carnivora** (cats, mongooses, hyenas, wolves, foxes, jackals, bears, seals, sea lions, walruses, weasels, skunks, otters, raccoons)
Carnivores are very diverse. All members of this order have similar digestive systems and sharp teeth. Not all of these animals are meat eaters, and not all meat eaters are in the order Carnivora. Roughly, Carnivora may be divided into cat-like carnivores, dog-like carnivores, and the semi-marine mammals. Dog-like carnivores include canines, bears, raccoons and their relatives, and the weasels and their relatives. Cat-like includes the Civets and other strange cats, the felines, mongooses and their relatives, and hyaenas (aardwolf). Semi-marine mammals are called pinnipeds (seals, sea lions, and the walrus).

Odd Ones

- * **Chiroptera** (bats)
Bats are the only mammal capable of true flight. Bats feed on a variety of items, such as fruit, insects, or blood. Bats vary. A quarter of all mammal species are bats. Bats are nocturnal, and help keep the insect population in check. Vampire bats usually don't bother humans, and do not suck blood. They bite thin areas of skin and lick the blood. If a vampire bat bites a human, it will most likely be between the toes.
- * **Lagomorpha** (pikas, rabbits, hares)
Lagomorph (rabbit-shaped) animals have unique teeth. They do often have wedge-shaped teeth in front, but their back teeth have a shape more similar to elephant teeth. Rabbits tend to have shorter ears and different running styles than hares. Pika have shorter ears and look like rodents.
- * **Proboscidea** (elephants)
There are two main groups of elephants. African elephants have larger ears, and the heads tend to be the highest part of the body. Asian elephants have smaller ears and the shoulder is the highest parts. Sub-groups of elephants exist.
- * **Pilosa / Edenata / Cingulata / Pilosa / Pholidota** (anteaters, sloths, armadillos, aardvarks, pangolins)
Sloths are slow moving and live in the trees. Anteaters have long, sticky tongues to help them eat. Armadillos have hardened plates which offer protection. Aardvarks are similar to the anteaters. Pangolins have scaly plates on the outside of their body, making them look prehistoric.



Water mammals

* **Cetacea** (rorquals, whales, dolphins, porpoises, narwhal, beluga, etc.)

Cetaceans have modified limbs which have become flippers. They have thick insulation and live in waters all around the world. Dolphins and whales are considered some of the most intelligent life on earth. Narwhals horns are used for breaking ice in the arctic.

For whales, there are two major types. The first are the toothed whales. Killer whales (orcas) are great examples of these. Dolphins (sometimes considered a minor whale) are toothed. Other whales are baleen whales. These are filter feeders and eat krill and other things floating in the water. Blue whales are included in the baleen whales.



* **Sirenia** (dugongs and manatees (sea cows))

Sea cows are gentle plant eaters. Many are found on the eastern coast of North America from Florida to the Carolinas. Some believe these creatures were mistaken for “mermaids” by lonely sailors.



* See also the carnivores for seals, sea lions, walruses, and otters.

Primates and Similar Orders (to come)

* **Primata** (aye-aye, lemurs, tarsiers, monkeys, apes, humans, gibbons, marmosets, etc.)

We will be exploring the primates next time. These range from the tiny creatures, such as the tree shrew, which has now been put in a separate order, through the simple primates, like lorises and lemurs, to monkeys and apes.



* **Dermoptera** (Colugos)

Colugos are called flying lemurs. Technically, they don't fly, but they do glide from tree to tree. These are a strange type of near primate. That's why they're in their own order.

