Rabbits, also known as bunnies or bunny rabbits, are small mammals in the family Leporidae (which also contains the hares) of the order Lagomorpha (which also contains the pikas). Oryctolagus cuniculus includes the European rabbit species and its descendants, the world's 305 breeds[1] of domestic rabbit. Sylvilagus includes 13 wild rabbit species, among them the seven types of cottontail. The European rabbit, which has been introduced on every continent except Antarctica, is familiar throughout the world as a wild prey animal and as a domesticated form of livestock and pet. With its widespread effect on ecologies and cultures, the rabbit is, in many areas of the world, a part of daily life —as food, clothing, a companion, and a source of artistic inspiration.

Although once considered <u>rodents</u>, lagomorphs like rabbits have been discovered to have diverged separately and earlier than their rodent cousins and have a number of traits rodents lack, like two extra <u>incisors</u>.

### **Differences from hares**

The term "rabbit" is typically used for all Leporidae species excluding the genus *Lepus*. Members of that genus are instead known as hares or jackrabbits.

*Lepus* species are typically <u>precocial</u>, born relatively mature and mobile with hair and good vision, while other rabbit species are <u>altricial</u>, born hairless and blind, and requiring closer care. Hares live a relatively solitary life in a simple nest above the ground, while most other rabbits live in social groups in <u>burrows or warrens</u>. Hares are generally larger than other rabbits, with ears that are more elongated, and with hind legs that are larger and longer. Descendants of the <u>European rabbit</u> are commonly bred as livestock and kept as <u>pets</u>, whereas no hares have been <u>domesticated</u> - the breed called the <u>Belgian hare</u> is a <u>domestic rabbit</u> which has been selectively bred to resemble a hare.

### **Domestication**

Rabbits have long been domesticated. Beginning in the <u>Middle Ages</u>, the European rabbit has been widely kept as <u>livestock</u>, starting in <u>ancient Rome</u>. <u>Selective breeding</u> has generated a <u>wide variety of rabbit breeds</u>, of which many (since the early 19th century) are also kept as <u>pets</u>. Some <u>strains</u> of rabbit have been bred specifically as <u>research subjects</u>.

As livestock, rabbits are bred for their <u>meat</u> and <u>fur</u>. The earliest breeds were important sources of meat, and so became larger than wild rabbits, but domestic rabbits in modern times range in size from <u>dwarf</u> to <u>giant</u>. Rabbit fur, prized for its softness, can be found in a broad range of <u>coat</u> colors and patterns, as well as lengths. The <u>Angora rabbit</u> breed, for example, was developed for its long, silky fur, which is often <u>hand-spun</u> into yarn. Other domestic rabbit breeds have been developed primarily for the commercial <u>fur trade</u>, including the <u>Rex</u>, which has a short <u>plush</u> coat.

## **Evolution**

Because the rabbit's <u>epiglottis</u> is engaged over the soft palate except when swallowing, the rabbit is an <u>obligate nasal breather</u>. Rabbits have two sets of incisor teeth, one behind the other. This way they can be distinguished from <u>rodents</u>, with which they are often confused.[7] <u>Carl Linnaeus</u> originally grouped rabbits and rodents under the class <u>Glires</u>; later, they were separated as the scientific consensus is that many of their similarities were a result of <u>convergent evolution</u>. Recent DNA analysis and the discovery of a common ancestor has supported the view that they share a common lineage, so rabbits and rodents are now often grouped together in the superorder Glires.[8]

# Morphology

Since speed and agility are a rabbit's main defenses against predators (including the swift fox), rabbits have large hind leg bones and well developed musculature. Though <u>plantigrade</u> at rest, rabbits are on their toes while running, assuming a more <u>digitigrade</u> posture. Rabbits use their strong claws for digging and (along with their teeth) for defense.[9] Each front foot has four toes plus a <u>dewclaw</u>. Each hind foot has four toes (but no dewclaw).[10]

Most wild rabbits (especially <u>compared to hares</u>) have relatively full, egg-shaped bodies. The soft coat of the wild rabbit is <u>agouti</u> in coloration (or, rarely, <u>melanistic</u>), which aids in <u>camouflage</u>. The tail of the rabbit (with the exception of the <u>cottontail species</u>) is dark on top and white below. Cottontails have white on the top of their tails.[11]

As a result of the position of the eyes in its skull, the rabbit has a field of vision that encompasses nearly 360 degrees, with just a small blind spot at the bridge of the nose.[12]

## Hind limb elements

The anatomy of rabbits' hind limbs are structurally similar to that of other land mammals and contribute to their specialized form of locomotion. The bones of the hind limbs consist of long bones (the femur, tibia, fibula, and phalanges) as well as short bones (the tarsals). These bones are created through endochondral ossification during development. Like most land mammals, the round head of the femur articulates with the acetabulum of the os coxae. The femur articulates with the tibia, but not the fibula, which is fused to the tibia. The tibia and fibula articulate with the tarsals of the pes, commonly called the foot. The hind limbs of the rabbit are longer than the front limbs. This allows them to produce their hopping form of locomotion. Longer hind limbs are more capable of producing faster speeds. Hares, which have longer legs than cottontail rabbits, are able to move considerably faster. [13] Rabbits stay just on their toes when moving; this is called Digitigrade locomotion. The hind feet have four long toes that allow for this and are webbed to prevent them from spreading when hopping. [14] Rabbits do not have paw pads on their feet like most other animals that use digitigrade locomotion. Instead, they have coarse compressed hair that offers protection. [15]