

# BIG CATS THAT ROAR

*Lions, Tigers,  
Jaguars and Leopards*



**Jamie Green**

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Smashwords Edition

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## What Is a Big Cat?

Well it depends who you ask!

Many people say that my cats are big.



Their names are *Achilles* and *Odin*.

That's right – they are named after Achilles, the hero of the Trojan War



and Odin, a god of the Vikings.



Scientists however would not consider my cats to be big cats. They reserve this term for cats that are much larger than mine. Do you know which cats they have in mind?

Some scientists say that a cat is a “big cat” only if it is able to roar.

The cats that can roar are:

the lion,



the tiger,



the jaguar,



and the leopard.



Other scientists will also include some non-roaring species such as the cougar (also called the mountain lion),



and the cheetah.



And then there is the panther.

Scientists and non-scientists have different definitions of “panther.” When most people hear the word panther, they immediately picture a “black panther.”



However, this animal is not a separate species. We will clear up this mystery a little later.

In this book we will focus only on the big cats that can roar. Hopefully we will not upset too many scientists.



There are some famous big cats from movies, books and in real life that have touched many people's hearts, such as the lion Simba from "The Lion King,"



the tiger Shere Khan from "The Jungle Book,"



and the leopard Baby, from “Bringing Up Baby.”



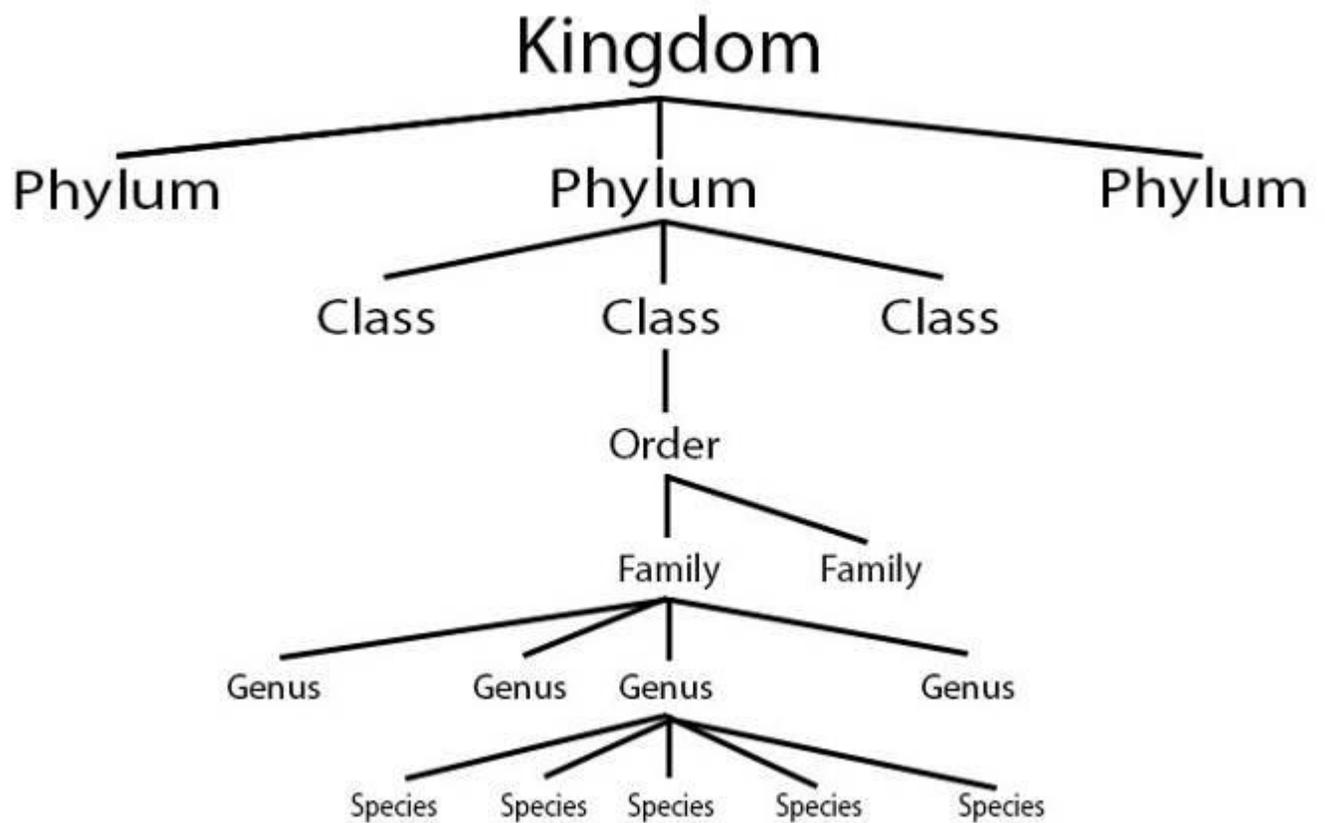
All cats (big or small) are mammals. This means that female cats produce milk to feed their young.



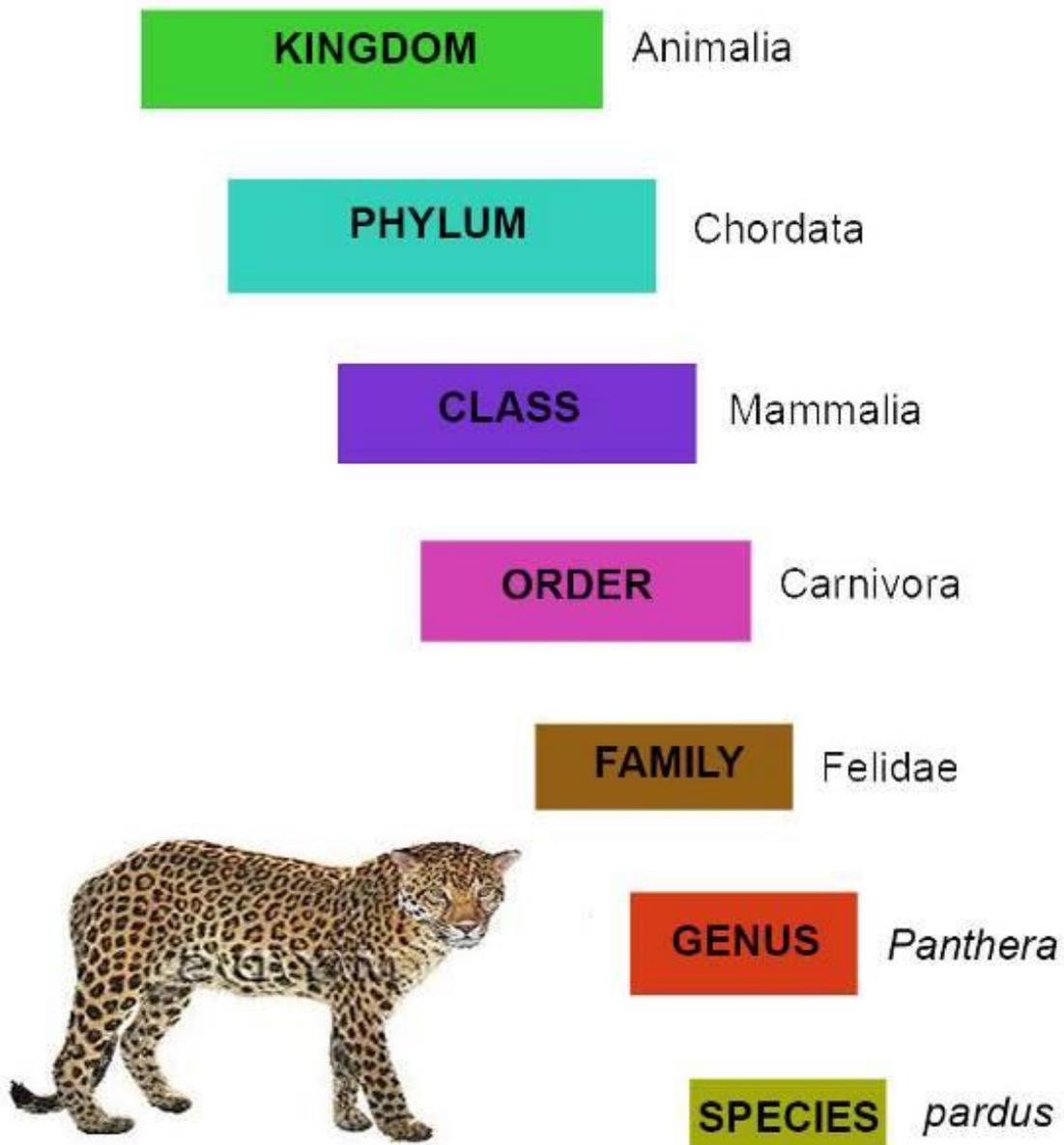
Mammals are also known for having hair or fur on their skin to keep warm, and for using four different kinds of teeth to bite, tear and chew their food (*incisors*, *canines*, *pre-molars* and *molars*).



The category of mammals is part of a larger *classification system* that biologists have created to study life on earth. All the big cats, along with all the different kinds of organisms inhabiting our planet (each organism is called a *species*) can be placed into groups according to physical characteristics they have in common. For example, all animals with feathers are grouped together as *birds*. All plants with flowers are called *angiosperms*. In order to organize and study the millions of known species, the classification system groups them in a scientific way. All life forms are first placed into one of six very large groups called kingdoms (such as the animal kingdom, the plant kingdom, the fungus kingdom, etc.). Each kingdom is then further divided into smaller and smaller groups (according to shared characteristics), in six divisions down to the individual species. The order of these divisions is: kingdom, phylum, class, order, family, genus and species.



In the classification system, every life form is placed (classified) into each of these categories and given a scientific name in Latin (sometimes Greek) according to its genus and species. The scientific name of man, for example, is *Homo sapiens* (*Homo* is our genus, *sapiens* our species). The scientific name for the leopard is *Panthera pardus*. The full classification of the leopard is as follows:



As we already discovered, all four of our big cats are mammals, that is, they belong to the class *Mammalia*. (All mammals are automatically members of the phylum *Chordata* since they have a backbone that protects their spinal cord from injury.) The class *Mammalia* contains 26 orders for the 26 different kinds of mammals that have been identified (remember that the order is a subdivision of the class). Each order has its own special set of shared characteristics. As indicated in the diagram above, cats are in the order *Carnivora* along with several other families. These carnivore families include:

dogs (family *Canidae*)



bears (*Ursidae*),



weasels (*Mustela*),



badgers (*Mustelidae*),



skunks (*Mephitidae*),



raccoons (*Procyonidae*),



hyenas (*Hyaenidae*),



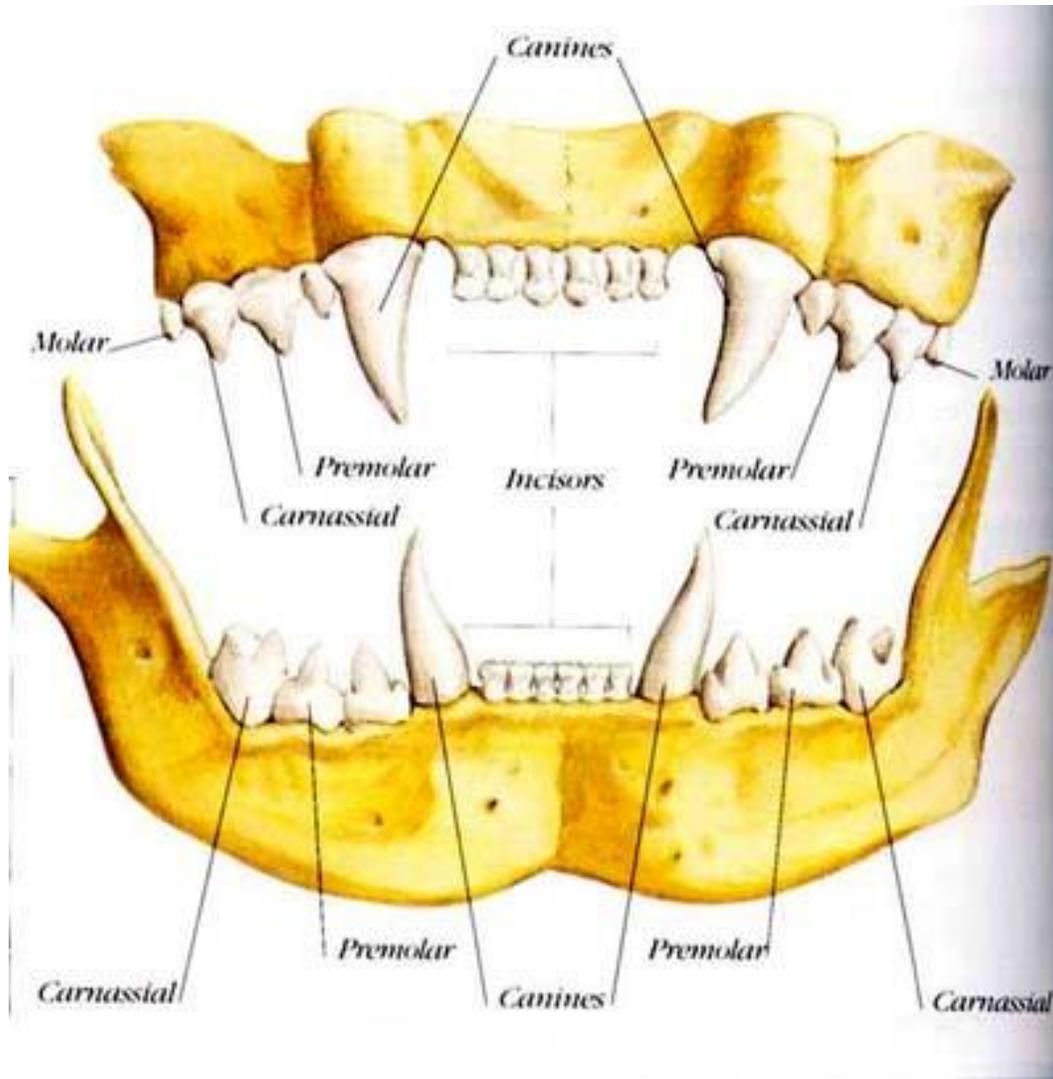
seals (*Phocidae* and *Otariidae*),



and let's not forget about the walrus (*Odobenidae*).



Can you guess what all carnivores have in common? Correct! They are the mammals that eat meat. Some carnivores most often hunt for their food (these carnivores are called *predators*) and others eat meat mainly from the dead bodies of other animals that they find (these carnivores are called *scavengers*). All carnivores, however, are capable of both methods. Carnivores even have a special pair of scissor-like teeth on each side of the jaw for slicing meat. These specialized teeth are called *carnassials*.



You will note in the above diagram of a cat's mouth that even the premolars have become sharpened and the molars reduced in size and number for dealing with the cutting and slicing of meat. In carnivores that eat plants as well as meat, the molars are normal size in order to grind the food. Note also that the long sharp canines are for biting and killing prey.

A carnivore (which includes the members of the order *Carnivora*) is therefore defined as a flesh-eating animal. It eats meat almost exclusively.



Animals that eat only plants are called *herbivores*.



And animals that eat both meat and plants are called *omnivores*.



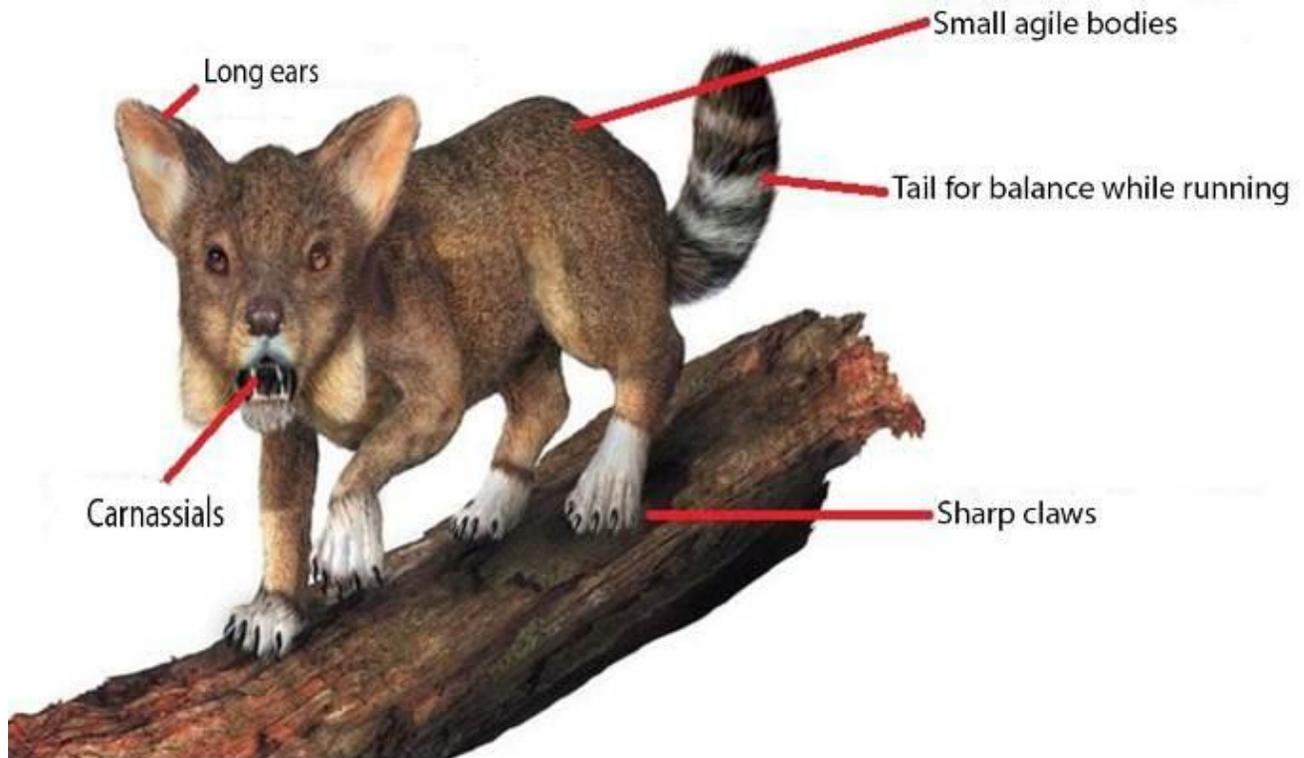
Grouping all members of the order *Carnivora* as meat eaters is actually a bit misleading because there are exceptions to this rule. For example, most bears are really omnivores,



and the panda bear is really an herbivore.



The one thing that all members of the order *Carnivora* have in common is a predatory ancestor called a *miacid* with four of those scissor-like carnassial teeth that can slice and tear through flesh.



The first miacids were small carnivorous mammals, only 8 inches long and 1 to 2 pounds in weight. They lived in the jungle trees of Europe 55 million years ago, eating insects and smaller animals and hiding from larger predators. For over 20 million years miacids spread and changed into many different species both in the trees and on the ground. These were the ancestors of the *Carnivora*.

So just to clarify, a member of the order *Carnivora* does not have to be a carnivore in the true sense of the word.



Cats, however, are true carnivores. Their diet consists almost entirely of meat. The technical term here is *obligate* carnivore.



Cats have sharp claws and teeth, muscular bodies, and quick reflexes for hunting and killing their prey and for processing the meat.



All cats are grouped together into one Carnivore family, the family *Felidae* (remember, the family is a subdivision of the order). This is why we often call them felines.



Some of the most endearing characteristics of felines are their flexible spines which give them the ability to arch their backs and perform spring-like leaps, retractable claws for holding down their prey, whiskers to detect the slightest air movements, and the ability to land on their feet when falling.



Since everyone loves baby animals, it is worth mentioning that the babies of small cats are called *kittens*,



and the babies of big cats are called *cubs*.



Okay. It is about time that we focus on The Big Cats!