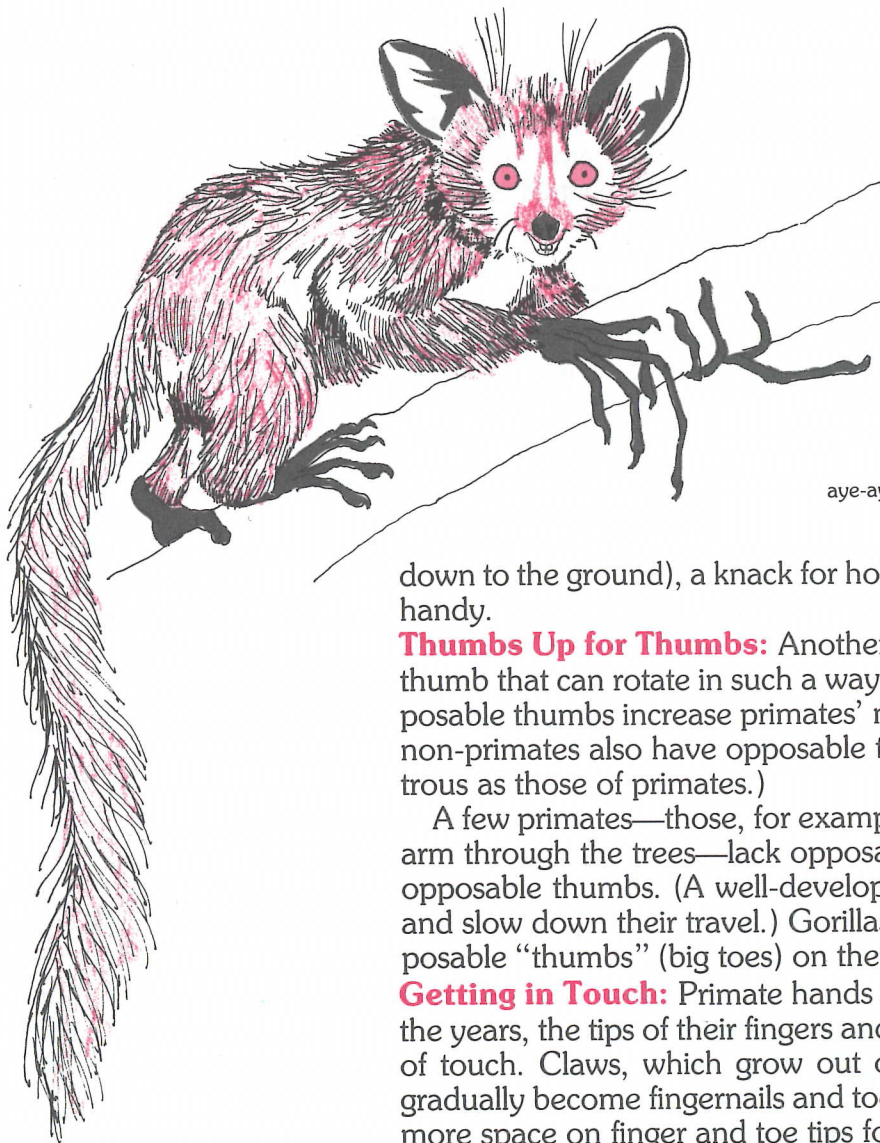


# THE PRIMATES

**O**n the island of Madagascar there's a rare, strange-looking little mammal called the aye-aye (EYE-eye). With its big, bushy tail and slender body, the aye-aye looks a little like an oversized squirrel. It builds large, leafy nests in the trees, and it gnaws on wood with its rodentlike front teeth.

But despite its appearance and habits, the aye-aye isn't related to squirrels—or to any other rodent, for that matter. It's related, in fact, to humans—and to the baboons, chimpanzees, orangutans, and others that, along with the aye-aye, make up the group of mammals known as the *primates*.



aye-aye

## A PRIMATE PRIMER

Just what is a primate? It's difficult to give a quick and easy definition, since there's so much variation among the different species. (Compare an aye-aye, for example, with a human.) But all primates have several or all of the following characteristics:

**The Gift of Grasp:** Being able to grasp objects with fingers and/or toes is a typical primate "talent." (Some other mammals, such as rodents, have the ability to grasp, but not nearly to the extent that primates do.) Since most primates spend a lot of their time in trees (some, in fact, rarely come

down to the ground), a knack for holding onto branches and vines really comes in handy.

**Thumbs Up for Thumbs:** Another primate specialty is an *opposable thumb*—a thumb that can rotate in such a way that its tip touches the tips of the fingers. Opposable thumbs increase primates' manual dexterity. (Opossums and a few other non-primates also have opposable thumbs, but their hands aren't nearly so dextrous as those of primates.)

A few primates—those, for example, that spend a lot of time swinging arm over arm through the trees—lack opposable thumbs or have only very small or semi-opposable thumbs. (A well-developed opposable thumb would get in their way and slow down their travel.) Gorillas and some other primates, though, have opposable "thumbs" (big toes) on their feet as well as on their hands.

**Getting in Touch:** Primate hands and feet are special in another way too. Over the years, the tips of their fingers and toes have evolved into very sensitive organs of touch. Claws, which grow out of the ends of many mammals' digits, have gradually become fingernails and toenails on the *backs* of primates' digits, leaving more space on finger and toe tips for touching.

**The Brainy Bunch:** Mammals, in general, are a pretty intelligent group. (For more about how mammals' brains compare with those of other animals, see "The Layered Wolf" on page 12 of *NatureScope: Amazing Mammals—Part I.*) And

many of the primates are among the best “thinkers” in the bunch. Their brains are larger in relation to their body sizes than those of most other animals, and as a group they probably have a higher capacity for learning than any other animal group does. (Some scientists, though, think that dolphins and other whales may rival the primates when it comes to brain power.)

**Seeing in Stereo:** People and most other primates make a poor showing when their sense of smell is compared with that of other mammals. But when it comes to eyesight, they rank far above the others. They can see color—an unusual ability among the mammals—and their eyes face forward so that the view each of their eyes perceives overlaps with that of the other eye. This overlapping eyesight, called *stereoscopic vision*, helps primates judge distances. (Most mammal carnivores also have forward-facing eyes and stereoscopic vision. But almost all other mammals have eyes located on the sides of their heads.)

**Group Dynamics:** Although a few kinds of primates are loners, most spend their entire lives as part of a group. Group living has a lot of advantages, but one of its main pluses is the concept of safety in numbers. (For more about this concept, see page 26.)

There’s usually a lot of cooperation and interaction among the members of a primate social group. For example, most primates take turns *grooming* each other: looking through each other’s fur and removing dirt, ticks, and other “riffraff.” This not only helps members of the group stay healthy, but it also helps establish and maintain bonds within the group.

### WHO’S WHO AMONG THE PRIMATES

When we hear the word *primate*, most of us probably think of gorillas or chimps—or maybe even ourselves. These primates belong to the *anthropoids*, one of two main primate groups. (*Anthropoid* means “resembling man.”) The other main group of primates, called the *prosimians*, is a lot less humanlike than the anthropoids. Here’s a look at both primate groups and at some of the representatives of each:

**An Overview of the Anthropoids:** Humans, apes, and monkeys all belong to the anthropoid primate group. Except for humans, who have adapted to living in almost every habitat and climate in the world, most anthropoids are confined to tropical or subtropical areas. Many, such as orangutans and spider monkeys, stick to the forests—but a few, such as baboons, live on the open savannah.

A lot of people use the words *monkey* and *ape* interchangeably, but these words



gorilla



gibbon

proboscis monkey

actually refer to two different kinds of animals. The main differences between these mammals have to do with the structure of the skeleton (especially the skull). But you can usually tell a monkey from an ape by the fact that most monkeys have tails. Also, most monkeys probably aren't so intelligent as the apes are.

Baboons, colobus monkeys, macaques, marmosets, and tamarins are all examples of monkeys. Chimpanzees, gibbons, gorillas, and orangutans, on the other hand, are all types of apes.

**Prosimians—the “Primitive” Ones:** Scientists think that the earliest primates were probably very similar to some of the animals that belong to this group. Some prosimians have longer, more doglike snouts than anthropoids do, and their sense of smell is more highly developed. They tend to be smaller than the anthropoids, and their brains aren't as large in relation to the size of their bodies. Most live in tropical forests in Africa (including the island of Madagascar) or Asia.

The aye-aye mentioned in the introduction to this chapter is a prosimian. So are bush babies, lemurs, lorises, pottos, and tarsiers. As different from humans as these mammals look, we all have a lot in common. And we share an ancestry that goes back at least 70 million years.

### LOOKING AHEAD

Unfortunately, the future for many primate species is not very secure. The main problem primates face is one that's affecting many kinds of animals these days: large-scale destruction of habitat. Most primates live in the tropics—areas that are changing fast as human populations continue to explode and as unwise exploitation of resources increases.

For some primates, such as gorillas, poaching is another big problem. Poachers kill these animals not only for their meat, but also for their skins, skulls, and hands. The meat often ends up in restaurants in nearby towns, and the skins, skulls, and hands become tourists' souvenirs. (Gorilla hands are often fashioned into ashtrays.)

But the outlook for primates isn't hopeless. In fact, a lot of progress has been made toward ensuring their survival. Conservation organizations are working to protect habitats, control poaching, and educate people about primates. And zoos and research centers are cooperating with other organizations and with governments in developing breeding and reintroduction programs. Getting involved with the efforts of these organizations is one way you can help solve the problems primates face. (See “Hope for the Future” on page 55 of *NatureScope: Amazing Mammals—Part I* for the names of some organizations you can support.)



orangutan



red colobus monkey



baboon