



Facing page: The Crowned Lemur, agile and tree-dwelling, is typical of the “true” lemurs, which are found only in Madagascar. It is active during both day and night.

Introducing Lemurs

Imagine a bend in a wide, fast-flowing tropical river. The current undercuts a forested bank until, one day, a tangle of trees and vines crashes into the river to be swept out to sea. Clinging to the branches or sleeping in a hollow trunk is a family of primates, which somehow survives until its raft washes up on the shore of an island. This may sound like a highly unlikely film plot, but it is actually the most likely hypothesis to explain how primates first colonized Madagascar.

Mysterious sunken continents, ancient land bridges, and changes in sea level have all been proposed to explain the peculiar natural history of Madagascar, the second-largest island in the world. Geological evidence shows that Madagascar became isolated 88 million years ago, long before primates evolved. Once the ancestral lemurs arrived on Madagascar—perhaps as long as 80 million years ago—a wealth of ecological opportunities awaited them. The prosimians they left behind in mainland Africa were mostly displaced as more successful monkeys and apes evolved, but the proto-lemurs had little competition on Madagascar. Over millions of years they evolved to exploit the vast array of unoccupied niches available, resulting in a huge variety of lemur-like primates.

Lemur diversity

Nearly 70 species of lemur are known, but at least 16 of these have been driven to extinction since humans arrived on Madagascar some 2,000 years ago. The surviving species have many strange adaptations. Being isolated for so long has led to the development of both physical characteristics and behavioral traits found in no other primates. For example, female dominance is typical of almost all lemurs, but this trait is seen in very few other primates. Strictly seasonal breeding and activity spread throughout the entire 24-hour period (known by biologists as cathemerality) are also features seen only in lemurs. In fact, some traits of lemurs are unique among mammals.

A number of theories have attempted to explain the development of such unusual traits. One theory argues that Madagascar’s scarce resources and unpredictable environment places extra pressure on reproducing females, and that female lemurs having priority access to resources would therefore help to reduce this pressure. Another theory suggests that such behavioral features may have only arisen in the past 1,000 years, since a lot of species (including predators) have been eradicated by humans relatively recently; the absence of these factors might have allowed some species to become more active during the day (diurnal). Lemurs display extraordinary diversity. Some species are active



Above: The Red-ruffed Lemur (*Varecia variegata rubra*), a subspecies of the Ruffed Lemur, uses its thick tail to steady itself while foraging among branches in northeastern Madagascar. Fruit makes up about 75 percent of its diet.

in the daytime, some at night, and some both. Their preferred foods range from fruit and leaves, to bamboo shoots, nectar, and insects. Most species are arboreal, spending their lives in trees. Social arrangements in lemurs also vary; some have a largely solitary lifestyle, others pair with a mate for life, and some species form large, complex social groups.

Since the arrival of humans on Madagascar, they have exploited the island’s resources to devastating effect. Slash-and-burn agriculture is destroying lemur habitat at an alarming rate, as is the cutting of trees. Many lemurs are hunted for meat or caught as pets. The superstitions concerning the hunting of lemurs—beliefs that had protected these primates in the past—have become eroded. Furthermore, climate change threatens lemur habitats. This is a particular threat for endemic island-dwellers such as lemurs, because they have nowhere else to go. Fortunately, the island is the focus of many international conservation efforts. Madagascar is viewed by many as the highest conservation priority on Earth.