

become more and more separated by the ocean. At length we find that the three groups of tropical mammalia, belonging severally to America, Africa, and India, have not a single species in common.

The predominant influence of climate over all the other causes which limit the range of species in the mammalia is perhaps nowhere so conspicuously displayed as in North America. The arctic fauna, so admirably described by Sir John Richardson, has scarcely any species in common with the fauna of the state of New York, which is 600 miles farther south, and comprises about forty distinct mammifers. If again we travel farther south about 600 miles, and enter another zone, running east and west, in South Carolina, Georgia, Alabama, and the contiguous states, we again meet with a new assemblage of land quadrupeds, and this again differs from the fauna of Texas, where frosts are unknown. It will be observed that on this continent there are no great geographical barriers running east and west, such as high snow-clad mountains, barren deserts, or wide arms of the sea, capable of checking the free migration of species from north to south. But notwithstanding the distinctness of those zones of indigenous mammalia, there are some species, such as the buffalo (*Bison Americanus*), the racoon (*Procyon lotor*), and the Virginian opossum (*Didelphis Virginiana*), which have a wider habitation, ranging almost from Canada to the Gulf of Mexico; but they form exceptions to the general rule. The opossum of Texas (*Didelphis canerivora*) is different from that of Virginia, and other species of the same genus inhabit westward of the Rocky Mountains, in California, for example, where almost all the mammalia differ from those in the United States.

10thly. The *West Indian* land quadrupeds are not numerous, but several of them are peculiar; and, 11thly, *South America* is the most distinct, with the exception of Australia, of all the provinces into which the mammalia can be classed geographically. The various genera of monkeys, for example, belong to the family Platyrrhini, a large natural division of the quadrumana, so named from their widely separated nostrils. They have a peculiar dentition, and many of them prehensile tails, and are entirely unknown in other quarters of the globe. The sloths and armadillos, the true blood-sucking bats or vampyres (*Phyllostomida*), the capybara, the largest of the rodents, the carnivorous coati-mondi (*Nasua*), and a great many other forms, are also exclusively characteristic of South America.

“In Peru and Chili,” says Humboldt, “the region of the grasses, which is at an elevation of from 12,300 to 15,400 feet, is inhabited by crowds of lama, guanaco, and alpaca. These quadrupeds, which here represent the genus camel of the ancient continent, have not extended themselves either to Brazil or Mexico; because, during their journey, they must necessarily have descended into regions that were too hot for them.”* In this passage it will be seen that the doctrine of “specific centres” is tacitly assumed.

* Description of the Equatorial Regions.