

Abby Lodge
Galapagos Biodiversity

Like the website said, I, like most visitors to equator, would probably expect a continuation of the lush greenery that I imagine in mainland Ecuador. However, I learned that the Galapagos archipelago are situated on the Pacific Dry Belt and in average years only some of the larger islands receive enough rainfall to support tropical life. The flora of the Galapagos can be grouped into three major vegetation zones. The first are coastal plants, which are found in a narrow range along the shore and are distinctive because of their high tolerance for salty conditions. An example of a coastal plant is the mangrove tree. The second zone is referred to as the dry zone, which is comprised of plants that are adapted for very little water – such as succulent cacti. The third zone, which is located above the dry zones, is the humid zone. This zone is only found on the larger islands, as many of the smaller islands do not rise in elevation above the arid zone. An example of a plant found in the humid zone is the scalesia tree.

Scientists believe that famous tortoises first arrived in the Galapagos 2-3 million years ago and later dispersed throughout ten of the islands, eventually establishing 15 separate populations. As I was reading, I learned that there are many variations between the populations but two main morphological forms – the domed carapace and the saddle-backed carapace – that exist among the Galapagos tortoises that I would hope to see while I am there. I also found it somewhat hilarious that some birds will dance around in front of the tortoises to indicate that they are ready to eat all the ticks that hide in the folds of the tortoise's skin and that the tortoises respond by standing tall and stretching out their neck.

As is typical for most islands located far away from mainland, there are very few – only six – mammal species that are considered to be native to the Galapagos islands. Sea lions are the largest animals found in the Galapagos – with full-grown males weighing up to 550 pounds. I was surprised to learn that sea lions have a very playful behavior and some divers or snorkelers may be lucky enough to see them perform underwater gymnastics. Galapagos sea lions and fur seal (which are actually a type of sea lion) are morphologically similar. However, the biggest difference is their fur coats – the fur seal's is much thicker and appears "furrier" than sea lions. Rice rats are another mammal species found in the Galapagos. Unfortunately, only four of the seven original species still exist on the islands and those four species can be found on three islands that humans do not inhabit. There are only two species of bats in the Galapagos, *Lasiurus cinereus* and *Lasiurus brachyotis*. I love bats and find it so interesting that these two species are able to coexist because *Lasiurus cinereus* forages higher in the trees and air while *Lasiurus brachyotis* forages near the ground. Finally, there are aquatic mammals – humpback whales, sperm whale, killer whale, false killer whales, and the pilot whale; along with two species of dolphins, bottle-nosed dolphin and the common white-bellied dolphin can be found in the waters around the Galapagos.

The Galapagos islands are also home to 56 native sea, shore and water bird species, 11 of which are endemic (found nowhere else on earth). As for land birds, there are 29 species in the Galapagos, 22 of which are endemic, and all are thought to have colonized the islands from the South American continent. Darwin's famous finches make up 13 of the 33 endemic species on the islands and are among the most abundant of the land birds.

Most surprising to me was that 51 percent of the total biodiversity in the Galapagos is terrestrial invertebrates. In 2001, 2,289 species of terrestrial invertebrates were reported, however, the exact number is still unknown as new records and new species are still being added.