“An Unusual Island” by Sal Khan. Found on [www.khanacademy.org](http://www.khanacademy.org) on September 15, 2015

Located in the Indian Ocean, off the coast of southeastern Africa, Madagascar is the world’s fourth-largest island. Hosting an unusually large number of species in a relatively tiny area,Madagascar’s biodiversity is its exceptional feature. This unusual variety is made possible in part by the island’s geographic features. Covering less than 0.5 percent of the world’s landmass, the island contains rainforests, mountains, and plains.

The vast number of species found in Madagascar stems from the fact that it has been cut off from other landmasses for 80 million years. As a result, the island has been an ideal setting for allopatric speciation, a process in which geographically isolated populations of the same species evolves independently. Due to the diverse habitats of Madagascar, many populations have also become isolated from one another on the island itself, resulting in further speciation. Over half of the world’s species’ of chameleons live on Madagascar. The island’s many habitats have resulted in chameleon species that have a wide variety of sizes, diets, and camouflages. The world’s largest and smallest species of chameleon are both found on Madagascar. The largest, Parson’s chameleon, can be almost a meter in length. The smallest can sit comfortably on the head of a match.

Madagascar’s plants are just as diverse as its animals, with over 12,000 species of plants on the island found nowhere else on earth. The tallest species of palm tree on the

island, Tahina spectabilis, reaches heights of over 60 feet. Botanists and island residents alike assumed the plants were unusually tall specimens of another palm species until they were surprised by one tree’s sudden flowering. It produced a bizarre-looking shoot that resembled a pine tree with each branch bearing hundreds of bunches of tiny white flowers. To date, only about three dozen of these durable trees are known to exist in the wild.

This palm tree was among the 600 previously unknown species discovered on Madagascar in just the first decade of the twenty-first century. The habitats that these species call home, though, are under threat. Over 23 million people live on the island, and the human population is growing. Most people on the island make their living as a farmer, and they have to cut down forests to create fields for crops. Some scientists theorize that the larger forces of climate change are having an effect, too. Temperatures are rising and rainfall patterns are changing. Species that have adapted to very specific, small ranges may now find them unsuitable habitats.