Wildlife and Fauna of Sri Lanka

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Introduction

Sri Lanka, nestled in the heart of the Indian Ocean, is one of the planet's most remarkable biodiversity hotspots. Despite covering less than one percent of the world's land area, the island harbors a disproportionately high number of species, many of which cannot be found anywhere else on Earth. Its geographical isolation, varied climate, and mosaic of ecosystems have facilitated the evolution of a unique and vibrant plethora of wildlife, making the study and conservation of Sri Lankan fauna a topic of both local pride and global significance.

This book, *Wildlife and Fauna of Sri Lanka: A Guide to the Wildlife and Fauna of Sri Lanka*, explores the incredible tapestry of life that calls this island home. From the lush rainforests of the southwest to the arid scrublands of the north and east, from misty montane cloud forests to teeming coastal wetlands, each ecosystem supports a dazzling array of mammals, birds, reptiles, amphibians, fish, and invertebrates. Endemism is a defining feature, as ancient biogeographical events set the stage for the evolution of species found nowhere else—particularly among amphibians, reptiles, and freshwater fish.

The chapters ahead provide a comprehensive overview of the island's fauna, beginning with its evolutionary history and island geography before delving into the details of different animal groups. Readers will discover not only charismatic megafauna like elephants and leopards but also lesser-known yet equally fascinating creatures such as endemic frogs, vibrant butterflies, elusive forest lizards, and colorful birds that have inspired generations of naturalists. Each section aims to offer insights into the ecology, behavior, and conservation status of these species, reflecting both scientific discoveries and the ongoing efforts to safeguard Sri Lanka's natural heritage.

Yet, the story of Sri Lankan wildlife is not just one of natural wonder; it is also one of urgent conservation. The island's habitats face growing pressure from human settlements, agriculture, and the impacts of climate change. Conservation initiatives, the creation of protected areas, and strong community involvement have been essential in staving off the loss of vital habitats and iconic species. Successful efforts, such as elephant transit homes and sea turtle conservation projects, point to what is possible with dedication and science-driven policy.

Wildlife tourism also plays a pivotal role in Sri Lanka's modern narrative. The island's spectacular safaris, whale-watching expeditions, and eco-lodges attract international visitors and sustain local economies. When managed responsibly, tourism can act as a positive force, incentivizing conservation and fostering a greater appreciation for the island's biological wealth. Balancing the needs of humans and wildlife, however,

remains a delicate and ongoing challenge.

Through this guide, it is our hope to foster a deeper connection to Sri Lanka’s wild places and unique creatures. By understanding both the splendor and the fragility of the island’s fauna, we can better appreciate the urgency of conservation, ensuring that future generations may also marvel at the wild wonders of Sri Lanka.

CHAPTER ONE: The Island of Gems: Geography and Climate

Sri Lanka, often called the "Pearl of the Indian Ocean," is an island nation southeast of the Indian subcontinent. Its strategic location near major sea lanes has long made it a crossroads of cultures and a hub of biodiversity. Shaped like a teardrop or, if you prefer, a mango, the island is not particularly large, with a total area of 65,610 square kilometers, which includes a modest 980 square kilometers of water. This makes it the twenty-fifth largest island in the world. Its coastline stretches for about 1,340 kilometers, featuring a variety of landscapes from sandy beaches to rocky cliffs. The coastal belt generally rises about 30 meters above sea level, though in some areas like the Jaffna Peninsula, the underlying limestone is exposed as low-lying cliffs.

Looking inland, the terrain transitions from these coastal plains to a more dramatic, mountainous interior in the south-central part of the island. This central mountainous mass is the heart of Sri Lanka, featuring a high plateau that runs roughly north to south for about 65 kilometers. Here, you'll find the country's highest peaks, including Pidurutalagala, which stands at 2,524 meters, making it the tallest mountain in Sri Lanka. Other prominent peaks in this region include Adam's Peak and Namunukula. Flanking the central ridges are lower plateaus, like the deeply dissected Hatton Plateau to the west.

The island's geological story is ancient, with over 90% of its surface lying on Precambrian strata that are billions of years old. These metamorphic rocks, formed under intense heat and pressure, are part of a larger landmass that was once connected to India as part of the supercontinent Gondwanaland. Around 45 million years ago, the Indian plate collided with the Asian landmass, a monumental event that created the Himalayas. This ongoing northward push still causes the Himalayas to rise slightly each year. Sri Lanka, situated near the center of the Indian plate, generally avoids the earthquakes and major volcanic activity experienced closer to the plate boundaries.

While the majority of Sri Lanka's surface is composed of these ancient crystalline rocks, there are smaller areas of younger sedimentary formations. Along the western coast, you can find small fragments of Jurassic-era sediment, while a more extensive belt of Miocene limestone underlies the northwestern part of the country and extends southward along the west coast. These geological formations, particularly the metamorphic rocks, have also endowed the island with rich mineral deposits, including graphite and various precious gems like rubies, sapphires, and topaz.

The island's rivers, all 103 of them, originate in the central highlands and flow in a radial pattern towards the sea. Most of these rivers are relatively short. However, sixteen of them are over 100 kilometers in length, and twelve of these carry about 75% of the country's total river discharge. The longest river is the Mahaweli Ganga, stretching for 335 kilometers and draining almost one-fifth of the island's area. Other significant rivers include the Malvathu River, the Kelani River, and the Kalu Ganga. In the highlands, the river courses are often interrupted by the rugged terrain, creating numerous waterfalls and rapids. Bambarakanda, at 241 meters, is the tallest waterfall.

Sri Lanka's location within the tropics, between 5° 55' and 9° 51' North latitude, means it has a tropical climate. The climate is heavily influenced by the monsoon winds of the Indian Ocean and the Bay of Bengal. The country experiences two main monsoon seasons: the northeast monsoon from December to March, bringing rain primarily to the northern and eastern regions, and the southwest monsoon from May to September, which drenches the western, southern, and central parts of the island. There are also two inter-monsoon periods in March to April and October to November, characterized by convective and depressional rains, often in the form of afternoon or evening thunderstorms.

Rainfall varies significantly across the island due to these monsoons and the topography. The western slopes of the central highlands receive the highest rainfall, sometimes exceeding 5,000 mm annually, making this the wet zone. The dry zone, covering the southeastern and northwestern parts of the island, receives much less, often under 1,750 mm annually. An intermediate zone lies between these two, receiving between 1,750 mm and 2,500 mm.

Temperatures in Sri Lanka are consistently warm throughout the year, particularly in the lowlands, with an average temperature of around 27-28°C in areas like Colombo. The coastal influence helps to moderate temperatures in these areas. As elevation increases, temperatures drop considerably. In the mountainous regions, the average temperature can be as low as 16°C, and at the highest altitudes, temperatures can occasionally drop close to freezing, particularly at night in places like Nuwara Eliya.

The ocean surrounding Sri Lanka is also warm, with sea temperatures rarely falling below 27°C. The currents around the island are primarily influenced by the reversing monsoon winds. During the southwest monsoon, the Southwest Monsoon Current flows eastward from the Arabian Sea, while during the northeast monsoon, the Northeast Monsoon Current flows westward from the Bay of Bengal. This seasonal reversal of currents plays a role in the marine environment around the island.

This diverse geography and climate, shaped by ancient geological forces and the rhythmic pulse of the monsoons, has created the foundation for the incredible array of life that thrives on this island. From the moist, misty highlands to the sun-baked dry

zone plains and the teeming coastal waters, each habitat offers a unique set of conditions, contributing to the remarkable biodiversity we will explore in the following chapters.

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