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Native Plants of Seychelles

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Introduction

The Seychelles archipelago, a cluster of 115 islands sprawled across the azure waters of the western Indian Ocean, has captured human imagination for centuries. Renowned for its dramatic granitic peaks, powdery beaches, and turquoise lagoons, Seychelles is much more than a scenic haven. Its significance as a global biodiversity hotspot lies in the ancient, isolated story of its land and, most notably, its extraordinary native plant life. Shaped by millions of years of geographic isolation and evolutionary processes, the flora of Seychelles offers a living window into a world that has largely vanished elsewhere.

In this book, "Native Plants of Seychelles: A Guide to the Native Plants of Seychelles," we embark on a comprehensive exploration of these botanical treasures. The native flora encompasses both indigenous species, those naturally occurring in Seychelles and other regions, and endemic species found nowhere else on earth. This distinction is crucial, for the islands harbor an impressive array of plants that have adapted to widely varied habitats—from salty coastal strands and mangroves to the mist-enveloped summit forests and sun-dappled palm groves. The diversity and ancient lineage of these plants underscore the Seychelles as a sanctuary for evolutionary wonders.

The unique granitic origins of the Inner Islands, detached from the supercontinent Gondwana over 65 million years ago, have given rise to truly unique plant communities. Some of the world's rarest and most iconic species—like the legendary Coco de Mer, the enigmatic Jellyfish Tree, and the carnivorous Seychelles Pitcher Plant—call these islands home. Their forms, lifecycles, and ecological relationships reflect intricate adaptations to their environment and a long coevolution with native animals, many of which are also endemic.

Yet, the native plants of the Seychelles hold far more than botanical interest; they are pillars of the islands' natural heritage, providing food, shelter, and ecosystem services essential for wildlife and humans alike. Local cultures draw on the healing powers of endemic and indigenous herbs, and the islands' very identity is intertwined with these plants. However, this botanically rich heritage faces a suite of persistent threats. Invasive alien species, habitat loss, fragmentation, overharvesting, and climate change all imperil the delicate balance that has sustained these plants for millennia.

This guide is designed both as a celebration and a call to stewardship. Each chapter delves into a key aspect of Seychelles' native flora—highlighting iconic species, ecosystems, environmental pressures, conservation efforts, and the deep interconnections between plants and people. By increasing awareness, documenting

rich botanical knowledge, and underscoring the importance of conservation, we hope to inspire readers not only to appreciate these remarkable plants but to join in their protection. The story of Seychelles' native flora is one of survival, adaptation, and possibility—a story still being written by those who cherish and preserve these irreplaceable botanical jewels.

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CHAPTER ONE: The Seychelles Archipelago: Geography and Origins

Imagine a scattering of emerald jewels strewn across a vast sapphire sea. That's the Seychelles archipelago, a nation of 115 islands in the western Indian Ocean, each with its own story etched in rock, sand, and time. Located between approximately 4° and 11° South latitude and 46° and 56° East longitude, these islands sit about 1,600 kilometers (990 miles) east of Kenya and roughly 1,100 kilometers (680 miles) northeast of Madagascar, right outside the main cyclone belt. While they share a tropical setting with many island chains, their physical origins set them dramatically apart.

Unlike the volcanic islands that punctuate much of the world's oceans, the heart of the Seychelles lies in something far older and more profound. The inner islands, a cluster of around 40 islands located within a 90-kilometer (56 mi) radius of the main island, Mahé, are the visible tips of a submerged continental fragment. They are, in fact, the world's only oceanic islands of granitic rock, a geological peculiarity that speaks volumes about their ancient history.

These granitic islands, including the largest and most populated, Mahé, as well as Praslin and La Digue, boast a dramatic and rugged topography. Boulder-strewn hills and mountains rise abruptly from the sea, creating a landscape of steep slopes and narrow coastal plains. The highest point in the archipelago, Morne Seychellois on Mahé, reaches 905 meters (2,969 feet). The presence of these massive granite formations, some sculpted into incredible shapes by eons of erosion, provides a visual spectacle unlike typical volcanic or coral islands.

The geological story of these granitic islands is deeply intertwined with the history of the supercontinent Gondwana. Around 65 to 66 million years ago, during the Paleocene epoch, a fragment of this ancient landmass, specifically from what is now the Indian continental plate, began to separate. This monumental rifting event, associated with the volcanic activity that formed the Mascarene Plateau, left the Seychelles block isolated in the Indian Ocean. The very rocks that form the bedrock of Mahé, Praslin, and other inner islands have been dated to a staggering 748-755 million years ago, highlighting their incredible antiquity.

Alfred Wegener, the scientist who proposed the theory of continental drift, even cited the granite outcrops of the Seychelles as early evidence for his groundbreaking ideas. The presence of continental granite in the middle of an ocean was a puzzle that plate tectonics would later explain, revealing that these islands are not born of oceanic

volcanoes, but are rather a piece of the old world adrift in a new sea. This unique origin story has profoundly influenced the development of the islands' flora and fauna.

Beyond the granitic core, the Seychelles archipelago also includes a large number of coralline islands. These make up the majority of the 115 islands, stretching out over a much wider area, particularly to the south and southwest. In contrast to their mountainous granite cousins, these islands are typically very low-lying and flat, often rising only a few feet or meters above sea level.

The coralline islands were formed through the accumulation and cementation of coral, sand, and other marine debris over geological time. They often take the form of atolls, enclosing a central lagoon. Islands like those in the Aldabra, Farquhar, and Amirantes groups fall into this category. Their composition means they generally lack the fresh water sources found on the higher granitic islands, which significantly impacts the types of plant life that can survive on them.

The climate across the Seychelles is tropical, as one might expect from islands situated just south of the equator. There is relatively little variation in temperature throughout the year, with daily highs typically in the mid-80s Fahrenheit (low 30s Celsius) and lows in the low 70s Fahrenheit (low 20s Celsius). However, the climate is strongly influenced by two distinct monsoon seasons.

From May to October, the southeast monsoon brings cooler, drier conditions and stronger winds, particularly on the eastern and southern coasts. This is often considered a more pleasant time to visit, though the seas can be choppy. Conversely, the northwest monsoon, from December to March, brings warmer, more humid weather and the bulk of the annual rainfall. December and January are typically the wettest months.

Rainfall amounts can vary significantly across the archipelago, influenced by elevation and exposure to the prevailing winds. Mahé, with its mountainous interior, receives considerably more precipitation than the flatter, outer islands. Mean annual rainfall on Mahé can range from 2,300 mm (90 inches) at sea level to as much as 3,550 mm (140 inches) on the mountain slopes, while some southern coral islands receive as low as 500 mm (20 inches) per year. This variation in water availability, coupled with temperature and wind patterns, creates diverse microclimates that support a range of plant communities.

The geological foundation also dictates the types of soils found on the islands. On the granitic islands, the predominant soil is a ferralitic soil, often referred to locally as "la Terre Rouge" or red earth, due to its characteristic color. This soil originates from the weathering of the underlying granite rock under tropical wet conditions. While widespread on the slopes and hills, these soils are generally low in nutrients and organic matter, acidic, and can be difficult to work when dry, presenting challenges for

plant growth and agriculture.

Along the coastal areas of the granitic islands, and as the primary soil type on the coralline islands, calcareous sandy soils (like the Shioya series) are prevalent. These soils are derived from coral sand and are alkaline in nature, coarse, and porous, with high water infiltration rates but very low clay content and organic matter. While some areas on outlying coralline islands have benefited from nutrient enrichment through bird guano deposits, in general, these sandy soils are also considered infertile.

This interplay of ancient continental geology, coral accretion, tropical climate patterns, and varied soil types has shaped the physical stage upon which the native plants of Seychelles have evolved. The dramatic granite peaks, the low-lying coral atolls, the humid mountain slopes, and the coastal fringes all offer distinct environments, each presenting unique challenges and opportunities for plant life. Understanding this geographical and geological backdrop is the essential first step in appreciating the remarkable botanical diversity that calls the Seychelles home.

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