Native Plants of Guinea

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Introduction

Guinea, situated on the west coast of Africa, is a land of remarkable landscapes and extraordinary biodiversity. As part of the Guinean Forests of West Africa biodiversity hotspot, it is home to a vast and unique array of native plants that flourish across its varied geography. From the salt-laden air of its Atlantic mangrove forests to the mist-clad highlands and the seemingly endless expanses of savanna and rainforest, Guinea’s natural heritage is reflected vibrantly in its flora.

This book, **Native Plants of Guinea: A Guide to the Native Plants of Guinea**, seeks to explore and illuminate the breadth and depth of Guinea’s plant life. The diversity found here is the product of complex geological and climatic histories, fostering endemism and adaptation as plants have evolved to thrive in distinct ecological regions. Lower Guinea's coastal plains, Middle Guinea’s highlands, Upper Guinea’s savannas, and the dense forests of Forest Guinea each tell a story of ecological richness and botanical wonder.

The native plants of Guinea are much more than elements of wilderness; they are central to the country’s culture, economy, and well-being. For centuries, local communities have relied on native flora not only for food and materials but also for healing. Ethnobotanical traditions tie knowledge of the land to the daily lives of Guinea’s people, making plants both a symbol and a sustainer of resilience.

Yet, this precious botanical legacy faces significant threats. Rapid development, unsustainable agriculture, illegal logging, mining, and the loss of traditional knowledge contribute to the decline of native species and habitats. Some plants unique to Guinea—once thought lost—have only recently been rediscovered, emphasizing both the urgency of conservation and the importance of scientific and local collaboration.

Ongoing efforts are underway to document, protect, and restore Guinea’s exceptional native flora. From government-driven strategies to community-based projects and international partnerships, a mosaic of initiatives demonstrates a growing recognition of the value and vulnerability of native plants. However, progress is confronted by limited resources, habitat degradation, and the shifting environmental realities of our time.

In the chapters to follow, this book will guide readers through the distinctive regions and ecosystems of Guinea, exploring key plant species, their roles in culture and health, the challenges they face, and the strategies being employed to safeguard them. By sharing the stories and science of Guinea’s remarkable plants, we hope to inspire appreciation, understanding, and action to ensure that this botanical heritage

endures for generations to come.

CHAPTER ONE: The Lay of the Land and the Sky Above

Guinea is a country on the cusp, a place where the gentle curve of the Atlantic coastline meets the dramatic uplift of ancient highlands, where vast savannas melt into dense rainforests. It is a nation defined as much by its varied topography as it is by its vibrant culture and rich history. Understanding the geography and climate of Guinea is the essential first step in appreciating the incredible diversity of its native plant life, for it is the stage upon which this botanical drama unfolds.

Imagine a crescent moon etched onto the bulge of West Africa; that’s roughly the shape of Guinea as it curves from its southeastern tip, sweeping north and west to its borders with Guinea-Bissau and Senegal and its embrace of the Atlantic. It's a country of just under 246,000 square kilometers, comparable in size to the United Kingdom, yet within its bounds lie worlds apart in terms of elevation, rainfall, and temperature. These variations create distinct ecological zones, each with its own set of conditions to which plants have adapted over millennia.

Guinea shares its borders with a handful of neighbors: Guinea-Bissau and Senegal to the northwest and north, Mali to the northeast, Côte d'Ivoire to the east, and Sierra Leone and Liberia to the south. These connections aren't just lines on a map; they represent corridors and barriers that have influenced the movement and distribution of plant species across the region. The nation is often described as being divided into four principal geographic regions, each a unique character in the Guinean narrative: Lower Guinea, Middle Guinea, Upper Guinea, and Forest Guinea.

Lower Guinea, also known as Maritime Guinea or the Basse-Coté, is the coastal belt. It's a relatively narrow strip, widening as you move south, characterized by a generally flat coastal plain. This is where the land meets the sea, a dynamic interface shaped by tidal estuaries, mangrove forests, and sandy beaches. The coast itself is indented with what are known as rias, which are essentially drowned river valleys, forming numerous inlets and tidal marshes. Imagine fingers of the ocean reaching inland, creating a complex network of waterways and intertidal zones. Numerous offshore islands dot the Atlantic horizon, remnants of hills from a time before the sea claimed more of the land.

Moving inland from the coast, the land begins to rise, leading us to Middle Guinea, dominated by the magnificent Fouta Djallon highlands. This mountainous plateau runs roughly north to south through the central part of the country. The Fouta Djallon is a truly remarkable landscape, often referred to as the "Water Tower" of West Africa

because it is the source of several major rivers, including the mighty Niger River, the Gambia River, and the Senegal River. Picture a vast, elevated sponge, capturing rainfall and feeding these vital arteries that flow across the sub-continent.

The Fouta Djallon highlands are primarily composed of thick sandstone formations layered over older granitic basement rock. Erosion, a tireless sculptor, has carved deep canyons and valleys into the sandstone, creating a dramatic and often breathtaking topography. While the average elevation of the Fouta Djallon is around 900 meters, some peaks rise significantly higher, with Mount Tamgué reaching over 1,500 meters. The landscape here is often described as rolling grasslands punctuated by rocky outcrops and the aforementioned deeply incised river valleys.

To the northeast lies Upper Guinea, a region characterized by savanna ecosystems. This area is generally flatter than the Fouta Djallon, with an average elevation of about 300 meters. It's a landscape of gently undulating plains, occasionally broken by isolated rocky features. The vegetation here reflects a drier climate than the coastal or highland regions, dominated by grasslands with scattered trees. This is where you might picture classic African savanna scenes, though Guinea’s savanna has its own unique character.

Finally, in the southeastern part of the country is Forest Guinea, a region dominated by dense humid forests. This area is part of the larger Upper Guinean Forest ecosystem that stretches into neighboring countries. It is also home to the Guinea Highlands, which include the highest point in the country, Mount Nimba, rising to 1,752 meters. The terrain here is both forested and mountainous, a combination that contributes significantly to the region's biodiversity. These forests are characterized by high rainfall and humidity, supporting a complex and layered plant community.

Now, let's talk about the weather, the invisible hand that shapes these landscapes and dictates the life cycles of the plants within them. Guinea has a tropical climate, and for most of the country, this means two distinct seasons: a dry season and a wet season. Think of it as a yearly rhythm of soaking rains and periods of much less precipitation.

The wet season generally runs from April or May through October or November, depending on the specific region. This is when the Intertropical Convergence Zone (ITCZ), a belt of low pressure that circles the Earth, makes its northerly swing, bringing with it moist air and heavy rainfall. The heaviest rains often fall in July and August. Along the coast, the rainy season is particularly pronounced, with some areas receiving an enormous amount of rainfall, sometimes exceeding 4,000 millimeters annually. This deluge saturates the coastal plains and sustains the vital mangrove ecosystems.

As the ITCZ shifts southward, the dry season arrives, typically lasting from November to March or April. During this time, a hot, dry wind called the Harmattan blows from

the northeast, originating in the Sahara Desert. The Harmattan brings with it dust and significantly lower humidity. In Upper Guinea, the savanna region experiences a shorter rainy season and more pronounced daily temperature variations compared to the coast. Temperatures in the northeast can soar during the dry season, sometimes exceeding 38°C, while nights can be surprisingly cool due to the lack of cloud cover.

The Fouta Djallon, with its higher elevation, experiences a slightly different climate. While still tropical, temperatures are generally more moderate than the coastal or savanna regions. Rainfall is less than on the coast but still significant, typically ranging from 1,500 to 2,300 millimeters annually. The higher altitude also leads to larger daily temperature ranges, especially during the dry season, where the difference between daytime highs and nighttime lows can be quite significant.

In the southeastern Forest Guinea, the climate is equatorial, characterized by high rainfall and humidity throughout much of the year, with only a few relatively drier months. The heavy rainfall here supports the dense rainforest vegetation. Temperatures at lower elevations in this region are similar to those on the coast, but they become milder with increasing altitude in the highlands.

The interplay of these geographic regions and their distinct climates creates the diverse mosaic of habitats that supports Guinea's rich native flora. From the waterlogged soils of the mangroves to the rocky outcrops of the Fouta Djallon, the arid stretches of the savanna, and the humid depths of the rainforest, each environment presents unique challenges and opportunities for plant life. It is this intricate relationship between the land, the climate, and the plants that makes Guinea a truly fascinating place for botanical exploration.

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