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Native Plants of Djibouti

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Introduction

Djibouti, a small but ecologically diverse country situated in the Horn of Africa, boasts a botanical richness that belies its arid reputation. Though its landscapes are often associated with heat, drought, and sparse vegetation, Djibouti is home to an impressive assemblage of native plants specially adapted to persistent environmental challenges. These plants do not merely survive—in many cases, they thrive in the harsh deserts, rugged mountains, saline marshes, and coastal strips that define the nation's geography.

The intricate mosaic of Djibouti's vegetation is shaped by a dynamic interplay of altitude, rainfall, soil types, and proximity to the sea. The result is a tapestry of ecological zones, including semi-desert shrublands, succulent steppes, forested mountain enclaves, and unique coastal habitats. Each of these zones harbors its own characteristic plant communities, from the iconic acacias scattered across the undulating plains to the relic juniper forests found high in the Goda Mountains. Collectively, this mosaic supports an estimated 820 to 950 plant species, a significant portion of which are rare, endemic, or globally threatened.

The role of Djibouti's native plants extends far beyond their ecological importance. For centuries, local communities have relied on these species for food, medicine, shelter, construction material, and spiritual inspiration. Plants such as Acacia, Aloe, and Euphorbia are deeply woven into cultural practices and traditional knowledge, providing vital resources in an environment where resilience and adaptation are essential. The gathering of wild seeds, the use of medicinal herbs, and the crafting of utensils and structures from palm fronds or branches are embedded in daily life—a testament to the enduring connection between people and their landscape.

Yet, this remarkable flora is under increasing threat. Unsustainable harvesting, expanding human settlements, invasive species, overgrazing, and climate change all pose significant challenges to the survival of native plants. Historically limited forest cover is shrinking further, with vital refuges like the Day Forest National Park under pressure despite their protected status. The story of Djibouti's flora is thus both one of resilience and fragility—a legacy at risk without concerted conservation efforts.

In writing this guide, we seek to illuminate the unique native plants of Djibouti, detailing their natural habitats, ecological roles, cultural significance, and conservation status. The chapters that follow provide a comprehensive survey of the nation's vegetation types, focus on key species, and explore both the threats and the promise of ongoing protection. By deepening our understanding of Djibouti's botanical heritage, we not only appreciate the intricate web of life that sustains this land but

also underscore the urgent need to conserve it for generations to come.

This book is both a companion for curious readers and a call to action for practitioners, researchers, and policy-makers. The conservation of Djibouti's native plants is not only about saving individual species; it is also about securing the ecological and cultural future of the nation itself.

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CHAPTER ONE: Djibouti: Geography and Climate

Djibouti, a nation perched on the northeastern coast of the Horn of Africa, is a place where the earth is still very much under construction. Its relatively small landmass, covering approximately 23,200 square kilometers (8,958 sq mi), is a dramatic canvas painted by tectonic forces. Situated at the dynamic triple junction of the African, Arabian, and Somali tectonic plates, the country is a hotbed of geological activity, showcasing landscapes shaped by rifting, volcanism, and seismic tremors. This unique position on the globe provides a fascinating backdrop for the plant life that has managed to take root and persist in this challenging environment.

The country is bordered by Eritrea to the north, Ethiopia to the west and south, and Somalia to the southeast. To the east lies its significant coastline along the Red Sea and the Gulf of Aden, giving it a strategic location on the Bab el Mandeb strait, often referred to as the "Gate of Tears," which controls access to the Red Sea and the Suez Canal. This coastal interface is not just economically vital but also contributes to the diversity of habitats found within the country, supporting ecosystems vastly different from the arid interior.

The topography of Djibouti is a study in contrasts, ranging from deeply depressed salt lakes to rugged volcanic mountains. The landscape includes coastal plains, vast desert plains, plateaus, and mountain ranges. While much of the country is characterized by arid and semi-arid conditions, the variation in elevation and geological features creates microclimates that allow for a surprising array of plant communities.

One of the most striking geographical features is the Danakil Depression, a vast and stark volcanic desert in the central and southern parts of the country. This region is home to Lake Assal, a hypersaline lake that holds the distinction of being the lowest point in Africa and the third lowest on Earth, sitting 155 meters (509 ft) below sea level. The landscape around Lake Assal, with its salt flats and volcanic hills, is often described as otherworldly, even being used as a filming location for science fiction movies.

Rising dramatically from the surrounding plains are Djibouti's mountain ranges. The Goda Mountains in the northwest and the Mabla Mountains in the north are particularly significant, providing higher altitudes and slightly more hospitable conditions for vegetation. The Goda Mountains, reaching elevations of up to 1,783 meters (5,850 ft), are home to the Day Forest National Park, a crucial area for biodiversity and one of the nation's most heavily vegetated areas. Mount Moussa Ali, located in the Goda Mountains near the border with Ethiopia and Eritrea, is the highest point in the country, reaching 2,028 meters (6,654 ft). These mountainous regions, though limited

in extent, offer a stark contrast to the lower, drier parts of the country and serve as vital refuges for certain plant species.

Beyond the mountains, large expanses of stony desert and volcanic plateaus dominate the interior. These areas, including the Grand Bara Desert and the Hanle Plain, are characterized by sparse vegetation adapted to extreme heat and lack of water. Temporary watercourses, known as wadis, carve through the landscape and can experience sudden, heavy flows during the infrequent rainfall events, playing a role in shaping the terrain and temporarily supporting plant growth.

Djibouti's climate is predominantly hot and arid, classified generally as a hot desert climate (BWh) or a hot semi-arid climate (BSh), with variations depending on altitude. This means consistently high temperatures throughout the year and minimal rainfall. The coastal areas tend to be hot and humid, while the interior is typically hot and dry.

There are generally considered to be two main seasons. The hot dry season typically runs from May to September, with temperatures often soaring above 40°C (104°F) in the summer months, particularly in July. This period can also see strong, hot, and dry winds from the desert, sometimes referred to as *khamsin*, which can whip up sand and reduce visibility. The cooler, or more temperate, season occurs from October to April. During this time, temperatures are milder, ranging from around 22°C to 30°C (72°F to 86°F) along the coast, with relatively higher humidity and the benefit of sea breezes.

Rainfall in Djibouti is sparse and highly irregular, a defining characteristic of its arid environment. Annual rainfall on the coastal seaboard is generally less than 130 mm (5 inches), while the mountainous highlands may receive slightly more, between 200 and 410 mm (about 8 to 16 inches). While the wettest months might see an average of around 30 mm of rain, other months, particularly in the summer, can receive less than 10 mm. The rain that does fall often comes in short, intense bursts, which can lead to sudden floods, particularly in urban areas. These unpredictable deluges, while potentially destructive, are also crucial for replenishing limited water sources and triggering temporary bursts of plant growth in otherwise barren areas.

The unique geographical setting and harsh climatic conditions of Djibouti create a formidable challenge for plant life. Yet, the species found here have evolved remarkable adaptations to survive the intense heat, scarcity of water, and often saline soils. The interplay of these environmental factors has resulted in distinct vegetation zones, each with its own set of hardy inhabitants, a testament to nature's ingenuity in the face of adversity.

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