# Wildlife and Fauna of Comoros

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# Introduction

The Comoros archipelago, a breathtaking cluster of volcanic islands in the Indian Ocean, lies at a unique crossroads between the coast of East Africa and the grand island of Madagascar. Despite their small size, these islands are internationally renowned for their exceptional wildlife and high rates of endemism. With four main islands—Grande Comore (Ngazidja), Mohéli (Mwali), Anjouan (Nzwani), and Mayotte—the Comoros are a crucial part of the “Madagascar and Indian Ocean Islands” biodiversity hotspot, standing as a testament to the evolutionary wonders that geographic isolation can yield.

Positioned at the confluence of African, Asian, and Malagasy biogeographical realms, the Comoros offer a rich tapestry of ecosystems. From lush montane forests shrouding volcanic slopes, to expansive coral reefs that fringe their coasts and vibrant mangrove belts, the islands support a dazzling array of life forms found nowhere else on Earth. Over thousands of years, this isolation has fostered the evolution of unique species and subspecies of flora and fauna, allowing the Comoros to emerge as a living laboratory of biodiversity and adaptation.

The islands’ natural history is not simply a story of wild beauty and biological curiosity. It is inextricably tied to the cultures, livelihoods, and futures of the Comorian people. Forests and wetlands provide essential ecosystem services—freshwater, resources, and protection against erosion—while the extraordinary diversity of plant and animal life holds untold value for medicine, food security, and sustainable development. From the canopy-dwelling Livingstone’s fruit bat—the world’s largest and rarest fruit bat species—to the ancient, mysterious coelacanth swimming in submarine caves, each species plays a vital ecological role.

Yet, this natural treasure is fragile. Human activity has profoundly reshaped the Comoros’ landscapes, with deforestation, land conversion, overharvesting, and the introduction of invasive species driving many native plants and animals to the edge. Coupled with the mounting pressures of climate change and a fast-growing population, the biodiversity of the Comoros stands at a critical crossroads. Many species, including endemic birds, reptiles, and marine creatures, are now globally threatened, underscoring the urgent need for robust conservation strategies.

This book, “Wildlife and Fauna of Comoros: A Guide to the Wildlife and Fauna of Comoros,” seeks to illuminate the biological richness of the islands for scholars, conservationists, residents, and travelers alike. Its chapters explore the varied habitats and ecosystems, delve into the unique plant and animal life that call these islands home, and discuss both the profound threats and inspiring conservation

successes witnessed here. The aim is not only to document what makes the Comoros so unique, but to foster a deep appreciation and sense of stewardship for a place whose survival is intimately linked to our choices and collective will.

By journeying through these pages, readers will gain insight into the marvels and challenges of Comorian biodiversity, and be inspired to play their part in ensuring that this irreplaceable natural heritage endures—thriving for the benefit and wonder of generations to come.

# CHAPTER ONE: The Comoros Archipelago: Geography and Climate

The Comoros archipelago, scattered like emerald jewels across the northern reach of the Mozambique Channel, occupies a truly remarkable position in the vast expanse of the Indian Ocean. Situated roughly halfway between the southeastern coast of mainland Africa and the colossal island mass of Madagascar, these islands form a natural stepping stone, influencing currents and weather patterns across this dynamic marine realm. They lie between approximately ten and twelve degrees south of the Equator, placing them squarely within the tropical zone, a geographical reality that dictates much about their environment.

Geographically, the archipelago aligns along a northwest-southeast axis, a linear arrangement that hints at the powerful geological forces that birthed them from the ocean floor. The island chain encompasses four primary islands: Grande Comore, known locally as Ngazidja; Mohéli, or Mwali; Anjouan, also called Nzwani; and Mayotte, or Mahoré. While Grande Comore, Mohéli, and Anjouan constitute the sovereign nation of the Union of the Comoros, Mayotte remains an overseas department of France, a political distinction that doesn't diminish its geographical and ecological connection to the rest of the chain.

Each island possesses its own distinct character molded by its age, volcanic history, and specific position within the archipelago. The distances between them, while not vast in oceanic terms, are significant enough to foster the unique evolutionary paths that have resulted in the high levels of endemism found here. For instance, Grande Comore sits roughly 200 kilometers from Mayotte and about 40 kilometers from Mohéli, with Anjouan located some 40 kilometers east of Mohéli. This relative isolation has allowed life to diverge and adapt in fascinating ways across the different landmasses.

The total land area of the Comoros archipelago, including Mayotte, is approximately 2,236 square kilometers. Despite their relatively small size, the islands boast a diverse topography born from their volcanic origins. The terrain generally ranges from rugged mountains to undulating hills and, in some areas, narrow coastal plains. This varied landscape plays a crucial role in shaping local climates and creating the distinct microhabitats that support the islands' rich biodiversity.

Dominating the landscape of Grande Comore, the largest and westernmost island, is the imposing presence of Mount Karthala. This active shield volcano, rising to a height of 2,361 meters (or about 7,746 feet), is not only the highest point in the Comoros but

also one of the most active volcanoes in the world. Its massive form occupies the southern two-thirds of the island and its eruptions have significantly shaped the terrain and soil composition, particularly in the southern regions.

North of the formidable Karthala, Grande Comore features an older, more eroded volcanic massif known as La Grille, with an elevation reaching around 1,000 meters. These two volcanic structures are connected by a plateau lying at an average elevation of 600 to 700 meters. Grande Comore's relatively young geological age means its soil is often thin and rocky, which, coupled with the absence of perennial rivers, presents challenges for water retention despite considerable rainfall. The coastline, largely lacking significant inlets, is not naturally conducive to large harbors.

Moving eastwards, Anjouan is the next major island in the chain. Older than Grande Comore, it exhibits a more deeply eroded volcanic landscape. The island is roughly triangular in shape, with three mountainous ridges radiating from a central peak, Mount Ntringui, which reaches an elevation of 1,575 meters (or about 5,200 feet). While Anjouan boasts deeper soil than Grande Comore, it has suffered significant erosion, particularly in areas subjected to intensive cultivation. The coastline features some long, sandy beaches, and the island's main port is located at Mutsamudu on the northwest coast.

Mohéli, the smallest of the four main islands, lies to the south-southeast of Grande Comore. It is characterized by a central mountain chain running along its length, reaching an elevation of about 750 to 860 meters at its highest point. Unlike Grande Comore, Mohéli is blessed with more fertile valleys and slopes still covered in thick forests. The island's south coast is particularly notable for its numerous beaches, coves, and a scattering of uninhabited islets surrounded by vibrant coral gardens, making it a key area for marine biodiversity and conservation. Fomboni is the capital and largest city on Mohéli, located on its northern coast.

Mayotte, the southeasternmost island, is geologically the oldest in the archipelago, formed millions of years before its younger siblings. It comprises two main islands, Grande-Terre (Mayotte) and Petite-Terre (Pamandzi), along with several smaller islets. Grande-Terre features a volcanic mountain range running north-south with summits reaching between 500 and 600 meters in elevation, the highest point being Mount Bénara at 660 meters. Mayotte is encircled by a barrier coral reef, creating a sheltered lagoon that provides calm waters for marine life and human activities.

The climate of the Comoros is broadly classified as tropical marine, a designation that immediately brings to mind warmth, humidity, and distinct seasonal shifts influenced by the surrounding ocean and monsoon winds. Situated relatively close to the equator, the islands experience consistently warm temperatures throughout the year, without the dramatic seasonal temperature swings found in higher latitudes.

There are two primary seasons in the Comoros, driven largely by the prevailing winds and rainfall patterns. The first is the hot and humid rainy season, known as the kashkazi, which typically runs from November or December through April. During this period, the northwest monsoon winds bring warm, moist air from the equatorial region, leading to higher temperatures and substantial rainfall. This is also the time when the islands are most susceptible to tropical cyclones, which can cause significant damage.

Following the wet season is the cooler and drier season, referred to as the kusi, which generally lasts from May to October or November. This period is dominated by the arrival of the southeast trade winds, bringing cooler and drier air masses. While this season is characterized by less rainfall and lower humidity, showers can still occur, particularly in the mountainous interior areas of the islands.

Temperatures across the archipelago remain warm year-round, with coastal areas experiencing average monthly temperatures ranging from 23°C to 28°C (73°F to 82°F). During the hot and humid season, average daytime temperatures can climb to around 31°C (88°F), while the cooler, drier season sees averages closer to 27°C (81°F). Overnight temperatures typically drop by about 8°C from the daytime highs.

Rainfall distribution, however, varies significantly across the islands and is heavily influenced by altitude and the orientation of the mountain slopes to the prevailing winds. Annual rainfall totals can range dramatically, from around 1,000 mm (about 39 inches) in the driest coastal locations to over 5,000 mm (around 195 inches) in the higher mountainous regions, particularly on Grande Comore's Mount Karthala.

Grande Comore, due to the height and mass of Mount Karthala, is generally the rainiest island, with Moroni, the capital located on the west coast, receiving around 2,700 mm (106 inches) of rain annually. The slopes of the volcano significantly enhance cloud formation and lead to frequent showers and thunderstorms. Anjouan and Mohéli receive less rainfall on average than Grande Comore, with annual totals around 1,800 mm (70 inches) and 2,100 mm (83 inches) respectively in their main towns. Mayotte is often noted as being noticeably warmer and drier than the other islands, although it still receives substantial rainfall, averaging around 5,000 mm annually according to some sources.

The seasonality of rainfall is pronounced. The wettest month across the archipelago is typically January, when coastal areas can receive over 300 mm (12 inches) of rain. While intense, these rain events are often short-lived, quickly giving way to sunshine. The driest period usually falls between September and November. Despite the heavy rainfall, some islands, notably Grande Comore and Anjouan, face challenges with freshwater availability due to their mountainous terrain's poor water retention and lack of perennial rivers. Mohéli and Mayotte tend to have more consistent natural

water sources.

The winds also play a significant role in the Comorian climate. The seasonal reversal of the monsoon winds, from the northwest during the hot season to the southeast during the dry season, is a defining characteristic of the region's climate. These winds influence ocean currents and can contribute to the formation of the tropical cyclones that occasionally batter the islands during the wet season.

The interplay of these geographical and climatic factors creates the foundation for the diverse ecosystems found throughout the Comoros, from the humid, cloud-shrouded montane forests to the sun-drenched coastal areas and the vibrant marine environments. The variations between the islands in terms of age, topography, and specific climatic conditions contribute to the archipelago's remarkable biodiversity, providing a range of habitats for the unique flora and fauna that call these islands home.

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