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# Wildlife and Fauna of the United Arab Emirates

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## Introduction

The United Arab Emirates may conjure images of bustling cities, striking skyscrapers, and endless desert landscapes, yet this remarkable country also harbors an astonishing wealth of wildlife and natural diversity. Although the UAE's arid climate and dramatic geography might at first seem inhospitable to life, decades of research and conservation efforts have revealed a tapestry of habitats supporting an impressive variety of plant and animal species. From windswept dunes to rugged mountains, tranquil wadis, lush mangroves, and vibrant coral reefs, each ecosystem tells a unique story of adaptation and resilience.

Covering only a small portion of the Arabian Peninsula, the UAE is home to an array of environments that encourage biological richness unimaginable to early explorers. The seemingly endless desert, which covers the majority of the land, forms a dynamic backdrop for creatures uniquely adapted to extreme heat and water scarcity. Meanwhile, the Hajar Mountains and borderland wadis offer sanctuaries with their more temperate microclimates and hidden springs, providing crucial oases for both flora and fauna. Along the coast, stretches of muddy flats, islands, salt pans, and mangrove forests create havens for birds, marine life, and countless invertebrates.

Despite the challenges of increasing urbanization and rapid development, the UAE has made remarkable strides in the conservation and study of its natural heritage. Initiatives to protect endangered species such as the Arabian Oryx, Houbara Bustard, and Hawksbill Turtle are widely recognized, while the creation of national reserves and parks demonstrates a sustained commitment to safeguarding the country's biodiversity. Technological innovation and scientific research further contribute to the understanding and preservation of sensitive habitats and species.

This guide seeks to introduce readers to the rich diversity of wildlife and flora encountered throughout the United Arab Emirates. Each chapter explores different realms—terrestrial, avian, reptilian, and marine—offering insights into the unique adaptations of species and the intricate connections between organism and environment. From detailed descriptions of mammals like the sand gazelle, bat populations, and elusive felines, to a focus on bird migrations, impressive reptiles, and the astonishing variety of native plants, this book endeavors to capture the full breadth of the UAE's living heritage.

We will also consider the growing threats to biodiversity arising from habitat degradation, climate change, and the spread of invasive species, along with the innovative strategies employed to confront these challenges. Case studies highlight successful reintroduction projects, cutting-edge monitoring techniques, and the vital

role played by public awareness and education in conservation.

Ultimately, 'Wildlife and Fauna of the United Arab Emirates' invites readers—whether naturalists, residents, or visitors—to appreciate the remarkable natural world thriving amid the dunes and cities of the UAE. By deepening our understanding of the country's wildlife and conservation efforts, we pay tribute to a national commitment to preserving its unique ecological legacy for future generations.

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## CHAPTER ONE: The Lay of the Land and the Rhythm of the Seasons

The United Arab Emirates, a young nation on the eastern edge of the Arabian Peninsula, is a place of stark contrasts. Here, towering modern cities rise from ancient sands, and a rich cultural heritage is woven into a landscape shaped by millennia of wind and sun. To truly appreciate the diverse wildlife that calls the UAE home, one must first understand the fundamental elements that define this land: its geography and climate. These two forces are the architects of the UAE's natural world, dictating where life can flourish and the incredible adaptations needed for survival.

Situated strategically between Oman and Saudi Arabia, the UAE occupies a pivotal location along the northern approaches to the Strait of Hormuz, a vital waterway for global trade. The country's borders stretch across approximately 83,600 square kilometers, with Abu Dhabi Emirate making up a substantial 87% of the total landmass. The coastline is a significant feature, extending for over 650 kilometers along the southern shore of the Persian Gulf. This coastline is not uniform; it includes stretches of salt pans, mudflats, and islands. To the east, the UAE also has a shorter but significant coastline along the Gulf of Oman, an area known as the Al-Batinah coast.

While much of the UAE is characterized by vast, rolling sand dunes that merge into the formidable Rub' al Khali, or Empty Quarter, of Saudi Arabia, the topography is surprisingly varied. The western and southern regions are dominated by these expansive sand formations, some of the largest in the world. However, the eastern part of the country presents a dramatic shift in landscape with the Hajar Mountains. These rugged mountains, a northwestern extension of the larger Hajar range, rise to elevations of over 2,000 meters in some areas.

The presence of the Hajar Mountains introduces a different set of environmental conditions, creating microclimates that contrast with the arid plains below. These mountains are dissected by wadis, which are essentially dry riverbeds. While often parched, these wadis can transform dramatically during periods of rainfall, becoming temporary streams and supporting unique ecosystems. The mountains and wadis provide crucial habitats and are vital for replenishing groundwater resources.

Beyond the mountains and vast sand seas, the UAE's geography includes gravel plains, particularly to the east of the sand deserts and bordering the Hajar Mountains. Coastal areas feature salt pans, or sabkhas, which are sometimes inundated by the waters of the Persian Gulf. These seemingly barren areas also support specialized life

adapted to saline conditions. The UAE also boasts a number of offshore islands in the Persian Gulf, some of which have been the subject of historical disputes. These islands and the surrounding waters are integral to the country's marine ecosystems.

The climate of the UAE is predominantly arid and is classified as a hot desert climate. This means that for much of the year, the country experiences high temperatures and very low rainfall. There are essentially two main seasons: a hot, humid summer and a mild, pleasant winter. The transitional periods between these seasons are often marked by variability in weather.

Summer, which typically runs from June to September, is characterized by extreme heat. Average maximum temperatures on the coastal plain can easily exceed 40°C (104°F) and can even climb towards 50°C (122°F) in the southern interior. The combination of high temperatures and humidity, particularly in coastal areas due to a humid southeastern wind known as the *sharqi*, can make the summer months particularly challenging. The average minimum temperature in August, for instance, can still be a sweltering 32°C (90°F). Rainfall during the summer is generally very low, almost negligible in some coastal areas away from the mountains.

Winter, from December to March, offers a significant reprieve from the summer heat. Mean temperatures during these months range from a comfortable 16.4°C to 24°C (61.5°F to 75.2°F). Nighttime temperatures in January and February can drop to between 10°C and 14°C (50°F and 57.2°F). While still generally dry, the majority of the UAE's limited rainfall occurs during the winter months. The average annual rainfall is sparse and inconsistent, typically ranging from 140 to 200 millimeters, though mountainous areas can receive more, up to 350 millimeters annually. This rainfall, though infrequent, is vital for replenishing wadis and supporting vegetation.

Dust storms and sandstorms are also a common feature of the UAE's climate, particularly driven by winds known as the *shamal*. These can significantly reduce visibility and impact the environment. Despite the overall arid nature, the coastal proximity to the Arabian Gulf and Gulf of Oman influences the climate, particularly regarding humidity.

Understanding this geographical and climatic backdrop is essential to appreciating the remarkable resilience and adaptability of the wildlife that thrives in the UAE. The harsh conditions have shaped unique evolutionary pathways, resulting in species that can tolerate extreme temperatures, conserve water, and find sustenance in seemingly barren environments. The varied topography, from the scorching sands to the cooler mountain peaks and humid coastal fringes, creates a mosaic of habitats, each supporting its own distinct community of plants and animals. This interplay between the landforms and the climate is the foundation upon which the rich tapestry of the UAE's wildlife is built.

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