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Wildlife and Fauna of Taiwan

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Table of Contents

- **Introduction**
- **Chapter 1** Geography and Climate of Taiwan
- **Chapter 2** The Origins of Taiwan's Biodiversity
- **Chapter 3** Island Biogeography and Endemism
- **Chapter 4** Mountain Ecosystems: The Central Mountain Range
- **Chapter 5** Forests of Taiwan: Types and Importance
- **Chapter 6** Lowlands, Plains, and Human-Altered Habitats
- **Chapter 7** Coastal and Marine Ecosystems
- **Chapter 8** Rivers, Wetlands, and Freshwater Environments
- **Chapter 9** Mammals of Taiwan: Diversity and Adaptation
- **Chapter 10** Endemic Mammals: Formosan Black Bear and Beyond
- **Chapter 11** The Primates and Carnivores of Taiwan
- **Chapter 12** Birds of Taiwan: Aerial Marvels
- **Chapter 13** Endemic and Iconic Bird Species
- **Chapter 14** Migratory Birds and Global Connections
- **Chapter 15** Reptiles and Amphibians: The Hidden Fauna
- **Chapter 16** Unique Fish and Aquatic Life
- **Chapter 17** Butterflies, Insects, and Invertebrate Riches
- **Chapter 18** Flora of Taiwan: Plant Diversity and Forest Structure
- **Chapter 19** Conservation History: Laws and Protected Areas
- **Chapter 20** Threats to Biodiversity: Habitat Loss and Fragmentation
- **Chapter 21** Invasive Species and Emerging Challenges
- **Chapter 22** Conservation Success Stories and Ongoing Projects
- **Chapter 23** Community, Culture, and Wildlife Conservation
- **Chapter 24** Research, Citizen Science, and Monitoring
- **Chapter 25** The Future of Taiwan's Wildlife: Strategies and Hope

Introduction

Taiwan, a lush and mountainous island in the western Pacific, is often referred to as a hidden jewel of biodiversity in East Asia. Despite spanning just around 36,000 square kilometers, it harbors a remarkable range of wildlife and unique ecosystems, much of which remains little known outside of Asia. Thanks to its strategic geographical position at the crossroads of the Asian continent and the Pacific, as well as millennia of geological activity, Taiwan is a natural laboratory where tropical, subtropical, and even temperate species converge and evolve. Mountainous peaks, fertile plains, diverse forests, rugged coastlines, and rich freshwater systems together harbor an extraordinary density of plant and animal life.

With an estimated 64,000 native and exotic species—accounting for nearly 4% of all globally known species—Taiwan's significance as a biodiversity hotspot cannot be overstated. It is home to over 600 species of birds, some of which exist nowhere else on the planet, alongside endemic mammals like the Formosan black bear, rare reptiles, endemic salamanders and frogs, and an astonishing array of insects, including over 400 species of butterflies. The variety in elevation, microclimates, and soil types has led to uniquely stratified ecosystems, each supporting its own specialized residents. In many cases, Taiwan's endemic species serve as biological treasures, reflecting the evolutionary history of the island.

However, Taiwan's natural abundance is not immune to the stresses brought by rapid development, industrialization, and the global challenges of habitat fragmentation and climate change. The coexistence of bustling cities, expansive farmlands, and remaining wilderness brings both opportunities and threats. Conservation efforts in recent decades have strived to balance economic progress with ecological resilience, recognizing that the island's wildlife is not only a scientific and cultural inheritance but also a vital resource for future generations.

This book seeks to provide a comprehensive overview and appreciation of the wildlife and fauna of Taiwan. It delves into the variety of habitats shaped by the island's geography and climate, and paints portraits of the remarkable creatures—both familiar and little-known—that call Taiwan home. Through the chapters, readers will gain insight into the processes that gave rise to Taiwan's rich biodiversity, encounter threatened and celebrated species, and explore the intertwined relationship between people and nature.

Importantly, the book also examines the conservation journey: from early protective measures to recent innovations including community-based conservation, legislative reforms, rewilding programs, and citizen science initiatives. Taiwan's path is

representative of the broader global challenges and opportunities in biodiversity protection, with lessons relevant to islands and habitats beyond its own shores.

Ultimately, by exploring the wonders, challenges, and hopes connected to Taiwan's wildlife and fauna, this guide aims to foster understanding, inspire stewardship, and encourage deeper connections with the island's natural heritage. In a rapidly changing world, Taiwan's story is a testament to nature's resilience and the enduring importance of conserving our planet's irreplaceable biological diversity.

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CHAPTER ONE: Geography and Climate of Taiwan

Taiwan, shaped like a sweet potato, is an island of dramatic contrasts. Its relatively small size belies a remarkable topographical complexity. Imagine a tilted fault block, with the eastern two-thirds dramatically uplifted into a series of rugged mountain ranges running parallel to the coast. These mountains form the spine of the island, creating a significant barrier between the more developed western plains and the wilder, steeper eastern seaboard.

The undisputed monarch of this mountainous realm is Yu Shan, or Jade Mountain, which soars to a breathtaking 3,952 meters (12,966 feet). This makes Taiwan the fourth-highest island in the world and the highest point in the western Pacific outside of places like the Kamchatka Peninsula or New Guinea. Yu Shan is part of the Yushan Range, which lies to the southwest of the Central Mountain Range.

Speaking of the Central Mountain Range, it's the most dominant feature, stretching from the northeast to the southern tip of the island and acting as the main watershed. Within these ranges, you'll find over two hundred peaks exceeding 3,000 meters, offering a paradise for hikers and a vital refuge for wildlife. Other significant ranges include the Xueshan Range to the northwest, with its main peak, Xueshan (Snow Mountain), reaching 3,886 meters, and the Alishan Range in the central-southern region, known for its stunning sunrises and tea plantations. The East Coast Mountain Range, while lower in elevation, adds to the dramatic scenery of the eastern coastline.

This intense geological activity isn't just a historical footnote; Taiwan sits at the junction of two tectonic plates, the Eurasian and Philippine Sea plates. This makes the island a hotbed of seismic activity, experiencing between 15,000 and 18,000 earthquakes annually, hundreds of which are felt by people. While most are minor tremors, the occasional powerful quake serves as a potent reminder of the earth's dynamic forces at play beneath the surface.

Moving west from the towering peaks, the landscape gradually descends into rolling hills and eventually the broad, fertile coastal plains that characterize the western third of the island. This is where the majority of Taiwan's population resides, with bustling cities, extensive farmlands, and industrial areas shaping the environment. The western plains are crisscrossed by numerous rivers and streams originating in the central mountains, carrying vital water to the lowlands.

Taiwan's coastline, stretching for nearly 1,700 kilometers, is as varied as its interior. The east coast is generally steep and rugged, with dramatic sea cliffs and fewer harbors. In contrast, the west coast is characterized by flatter terrain, extensive tidal

flats, and important wetlands. The island's offshore islands, such as Penghu, Kinmen, Matsu, Green Island, and Orchid Island (Lanyu), each possess their own unique geological features, from volcanic landscapes to coral reefs.

Now, let's talk about the weather, which plays an equally significant role in shaping Taiwan's ecosystems and the life they support. Situated across the Tropic of Cancer, Taiwan's climate is primarily subtropical in the north and tropical in the south, governed by the East Asian Monsoon. This means high temperatures and humidity are the norm for much of the year.

Summer, from roughly April or May to September or October, is long, hot, and humid. Average daily temperatures at sea level in July and August hover around 28.5°C (83°F) to 30.5°C (87°F), but can often climb higher, sometimes reaching 37°C or 38°C (99-100°F). The "urban heat island effect" in larger cities like Taipei can make it feel even warmer.

Rainfall is abundant throughout the year, with an average annual precipitation of around 2,500 to 2,600 mm. However, the distribution varies significantly depending on the season and location, thanks to the monsoon patterns. In the winter (November to March), the northeast monsoon brings steady rain to northern Taiwan, making it often cloudy and damp. Meanwhile, the central and southern parts of the island tend to be sunnier and drier during these months.

The summer monsoon, arriving from the south around May, brings heavy rainfall across the island. This is particularly true for the southwest coast and the mountainous interior. The period from May to September sees the highest rainfall, especially in the south where it can account for up to 80% of the annual precipitation. This intense summer rain can sometimes lead to flooding and landslides, particularly in mountainous areas.

Taiwan is also situated in a region prone to tropical cyclones, and on average, about four typhoons make landfall on the main island each year. Typhoon season typically runs from June to August and can bring strong winds and torrential rain, often causing the most damage along the east coast.

Winter in Taiwan is generally short and mild, especially in the south where average high temperatures in January are around 23°C (73°F) and the sun often shines. In the north, winters are cooler and cloudier, with average maximum temperatures around 19°C (66°F). While snow is rare in the lowlands, it does fall in the higher mountain areas. Temperatures at night rarely drop below freezing point due to the moderating influence of the surrounding ocean.

The warm Kuroshio Current, flowing northward along Taiwan's eastern coast, also plays a role in moderating the island's temperatures.

This intricate interplay of mountains, plains, coastline, and a monsoon-driven climate creates a mosaic of habitats. From the subtropical and temperate forests of the high mountains to the coastal wetlands and lowland ecosystems, each region offers unique conditions for life to thrive. The elevation changes alone create distinct climatic zones, allowing for a remarkable diversity of flora and fauna within a relatively small geographical area. This geographical and climatic foundation is the stage upon which the rich drama of Taiwan's wildlife unfolds.

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