

# ***ANIMAL DIVERSITY : TAXONOMICAL AND PHYSIOLOGICAL ASPECTS***

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## BIRDS AS NATURE'S MARVEL

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**ABSTRACT** : One of the most fascinating animals in the world is the bird. Birds belong to the endothermic tetrapod vertebrates. They walk on two legs because they are bipedal. Birds also lay amniotic eggs with solid calcium carbonate shells. Most vertebrates on Earth today are birds, although they are the youngest vertebrate class in existence. They have amazing colours and are covered with feathers. There are more than 18,000 species of birds on earth, from hummingbirds to perching birds. All of today's birds have beaks, wings and feathers. They also have a number of other characteristic features, most of which are flying adaptations. Birds use flight as a means of movement to find food and mates and to avoid predators. With their graceful flight, colourful plumage and variety of behaviours, birds are among the most fascinating species in Earth's vast natural world. Birds have captivated the human imagination for millennia. The world of birds is teeming with wonders, just waiting to be discovered.

Bird conservation is critical to both human life and biodiversity. Without birds and the ecosystem services they provide, we would not be able to exist, or at least live the lifestyles we do today. In our hearts and imaginations, we have a special place for birds because of their celestial beauty, alluring flight patterns, and mesmerizing sounds. They evoke wonder, fascination and a deep respect for the magnificence of the natural world. As we strive to explore and preserve them, we can learn from the bird species around us the importance of diversity, the pursuit of freedom, the power of song, and the delicate web that sustains life itself. Let us appreciate and protect these wonderful creatures, for they are the guardians of our skies and the bearers of nature's symphony.

Key words : Birds, conservation, biodiversity, environment, ecosystem.

### Introduction

It has been said that a bird is a feathered biped. They are highly valued as environmental indicators and of tremendous public interest. There is no other animal that fits this precise and accurate description. Birds are warm-blooded vertebrates, meaning that their internal body temperature is mostly independent of their environment's temperature. This contrasts reptiles, amphibians and fish, which have cold-blooded bodies, meaning that their body temperature fluctuates according to how hot or cold their environment is (Birkhead *et al*, 2014). Birds are among the most fascinating animals to many people around the world, and they are also among the well-studied organisms (Del Hoyo *et al*, 1992-2013).

From the two-inch Bee Hummingbird (Fig. 1) to the nine-foot-tall Ostrich (Fig. 2), birds

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# TORTOISES AND FRESHWATER TURTLES OF INDIA

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**ABSTRACT :** Turtles have a significant role in maintaining ecological balance by helping in nutrient cycling, trophic status maintenance, seed dispersal and germination. Over half of the 360 living species and 482 total taxa (species and subspecies) of turtles are threatened with the risk of extinction. Imminent threats as the habitat loss, trade for human consumption, traditional medicines and pet keeping is leading to the extinction of many taxa in this century. India is among the premier turtle diversity hotspots in the World. Three families and 29 species of Tortoises and freshwater turtles (TFT's) are found in India. Over 60% of India's chelonians are listed as either Critically Endangered or Endangered on the International Union for the Conservation of Nature Red List. Legally, all freshwater turtles of India have been protected under the Indian Wild Life (Protection) Act, 1972. Many efforts have been made by the Government, Non-government organizations for the conservation of TFT's in India. But due to various anthropogenic pressures, TFT's still face serious threats and it is imperative that the conservation measures should be continued.

Key words : Tortoises, freshwater turtles, endangered, threatened, conservation.

## Introduction

Chelonians *i.e.*, Tortoises and turtles, share an intricate linkage with the global ecosystems for over 200 million years now, since the Late Triassic Era (Ernst and Lovich, 2009). They have survived way longer than their early contemporaries, the dinosaurs. *Odontochelys semitestacea*, the first fossil to depict clear turtle affinities recorded from the Triassic in China is estimated to be more than 220 million years old (Li *et al*, 2008). It is a bit older than the earliest turtle fossil from the late Triassic in Germany *Proganochelys*, that had a complete shell (Zug, 1993). The chelonian shell makes them incredible organisms on Earth and is a million of year-old adaptation that antecedes the origins of aves and mammals, contributing to their success in freshwater, marine and terrestrial ecosystems. The development of the chelonian shell as a remarkable armor was an early modification of the basic amniote body plan that has remained relatively unchanged on evolutionary time scale and enabled these organisms to survive through million years of natural selection cycle, predators and the climate change.

Broadly, the word turtle today is synonymously used for animals with a bony shell and a backbone, but distinctly as turtles, tortoises, or terrapins (Ernst and Lovich, 2009). They are oviparous, toothless, quadrupedal, pentadactyl reptiles with a shell and a unique trochlear system