

Birds have colonized almost every terrestrial habitat on the planet—from the poles to the tropics, and from deserts to high mountain tops. *Ecological and Environmental Physiology of Birds* focuses on our current understanding of the unique physiological characteristics of birds that are of particular interest to ornithologists, but also have a wider biological relevance. An introductory chapter covers the basic avian body plan and their still-enigmatic evolutionary history. The focus then shifts to a consideration of the essential components of that most fundamental of avian attributes: the ability to fly. The emphasis here is on feather evolution and development, flight energetics and aerodynamics, migration, and as a counterpoint, the curious secondary evolution of flightlessness that has occurred in several lineages. This sets the stage for subsequent chapters, which present specific physiological topics within a strongly ecological and environmental framework. Numerous important and intriguing questions await further work, and the book concludes with a discussion of methods (emphasizing cutting-edge technology), approaches, and future research directions.

This accessible text is for both graduate level students and researchers in the fields of avian comparative physiology and physiological ecology, including specialist courses in avian ecology. It will also be of relevance and use to professional ornithologists seeking a concise overview of avian physiological ecology.