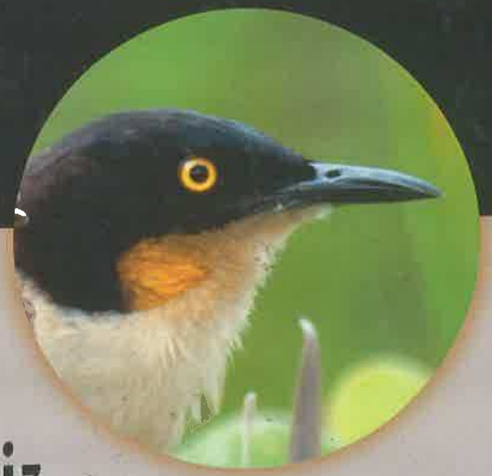
Birds

Evolution and Behavior, Breeding Strategies, Migration and Spread of Disease



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Evolution, Behavior and Ecology

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Contents

Preface

In this book, the authors present current research in the study of the evolution and behavior, breeding strategies, migration and spread of disease within the bird species. Topics discussed in this compilation include sex determination in birds; structure and function of the avian respiratory system, with discussion regarding its predisposition to injury by particulates and pathogenic microorganisms; distribution and dispersion of coccidia in wild passerines of the Americas; an animal geography of the dominant urban avian scavenger in contrasting case studies; recent infectious diseases or their responsible agents recorded from Japanese wild birds; ticks on Brazilian birds; an overview of recent parasitic diseases due to helminths and arthropods recorded from wild birds, with special reference to conservation medical cases from the Wild Animal Medical Center of Rakuno Gakuen University in Japan; environmental factors that affect urban avian communities; and the impact of landscape configuration and competitors on hooded vulture necrosyrtes monarchus temminck 1823 in Southern Ghana.

Chapter 1 - How gender is formed in birds? What caused dimorphism and formation of biologically important feature? What are the internal physiological mechanisms and the role of the genome in the process? To all these questions are answered offered to the reader head chapter. Paper is devoted to sex determination in birds. It will be reviewed data on the genome of birds, information on the sex chromosomes, heterogametic, sex of birds of the different karyotype. Specificity of Z and W chromosomes, sex chromosomes in Ratinae will be considered. The ideas will be presented about the role of hormones in sex determination and differentiation. The data on the possibility of "inversion" of sex in birds in the inhibition of aromatase, estrogen exposure and gonadectomy will be introduced. In addition, review key sex determining genes, chromosomal determinants, specific dosage compensation will be discussed. Sex determining genes will be examined in birds, including *Dmrt1, AMH, FOXL2* and W chromosomal determinants. The specificity of birds dose compensation will be described. The data will be submitted about MHM region of Z chromosome. Features of sex determination in males and females will be discussed. Bird cell-autonomous sexual identity (CASI) will be considered.

Chapter 2 - Among the air-breathing vertebrates, the avian respiratory system, the lung-air sac system, is structurally the most complex and functionally the most efficient gas exchanger. The lung which is small and compact is firmly held between the ribs and the vertebrae while the air sacs are capacious transparent membranous structures which are widely spread in the coelomic cavity. The lung is ventilated unidirectionally and continuously by a bellows-like synchronized activity of the air sacs. It takes two inspiratory cycles and two