

Birds

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



Lucas Ruiz
Franco Iglesias

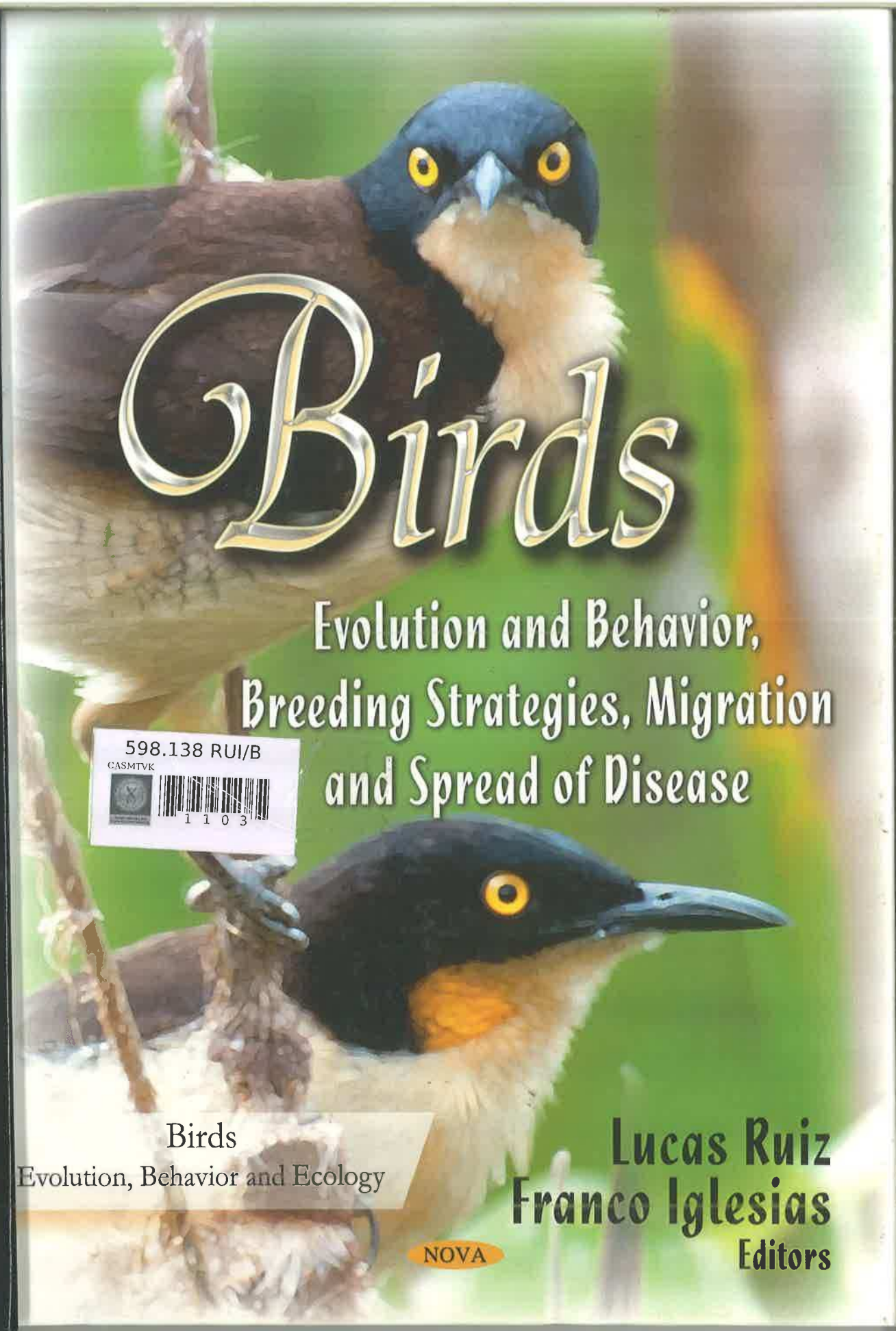
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Birds: Evolution and Behavior, Breeding Strategies, Migration and Spread of Disease ■ Ruiz ■ Iglesias
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Evolution, Behavior and Ecology

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Editors



BIRDS - EVOLUTION, BEHAVIOR AND ECOLOGY

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**EVOLUTION AND BEHAVIOR,
BREEDING STRATEGIES,
MIGRATION AND SPREAD OF DISEASE**

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Library of Congress Cataloging-in-Publication Data

Birds : evolution and behavior, breeding strategies, migration and spread of disease/ editors, Lucas Ruiz and Franco Iglesias.

pages cm

Includes bibliographical references and index.

ISBN: 978-1-62948-104-3 (hardcover)

1. Birds--Diseases. 2. Birds--Evolution. 3. Birds--Behavior. 4. Birds--Breeding. I. Ruiz, Lucas. II. Iglesias, Franco.

SF994.B57 2013

598.13'8--dc23

2013034690

Published by Nova Science Publishers, Inc. † New York

Contents

Preface		vii
Chapter 1	Sex Determination in Birds <i>A. F. Smirnov and A. V. Trukhina</i>	1
Chapter 2	Structure and Function of the Avian Respiratory System, with Observation on its Predisposition to Injury by Particulates and Pathogenic Microorganisms <i>J. N. Maina</i>	25
Chapter 3	Distribution and Dispersion of Coccidia in Wild Passerines of the Americas <i>Bruno Pereira Berto and Carlos Wilson Gomes Lopes</i>	47
Chapter 4	An Animal Geography of the Dominant Urban Avian Scavenger in Contrasting Case Studies <i>Michael O'Neal Campbell</i>	67
Chapter 5	Recent Infectious Diseases or their Responsible Agents Recorded from Japanese Wild Birds <i>Takuro Hirayama, Kii Ushiyama, Yuichi Osa and Mitsuhiro Asakawa</i>	83
Chapter 6	Ticks on Brazilian Birds: Overview <i>Hermes Ribeiro Luz and João Luiz Horacio Faccini</i>	97
Chapter 7	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 <i>Kii Ushiyama, Tomoo Yoshino, Takuro Hirayama, Yuichi Osa and Mitsuhiro Asakawa</i>	127
Chapter 8	Environmental Factors that Affect Urban Avian Communities <i>Daniel Patón</i>	143

Chapter 9	The Impact of Landscape Configuration and Competitors on the Hooded Vulture <i>Necrosyrtes monarchus</i> Temminck 1823 in Southern Ghana <i>Michael O'Neal Campbell</i>	157
Index		167

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