

STEPHEN MOSS



UNDERSTANDING  
BIRD BEHAVIOUR

B L O O M S B U R Y



# UNDERSTANDING **BIRD BEHAVIOUR**



Stephen Moss

UNDERSTANDING  
**BIRD BEHAVIOUR**

B L O O M S B U R Y  
LONDON • NEW DELHI • NEW YORK • SYDNEY

*To Suzanne, who opened my eyes to the wonders of bird behaviour*

Bloomsbury Natural History  
An imprint of Bloomsbury Publishing Plc

50 Bedford Square  
London  
WC1B 3DP  
UK

1385 Broadway  
New York  
NY 10018  
USA

[www.bloomsbury.com](http://www.bloomsbury.com)

BLOOMSBURY and the Diana logo are trademarks of Bloomsbury Publishing Plc

This electronic edition published 2015 by Bloomsbury Publishing Plc

First published 2015

© text, Stephen Moss, 2015

© photographs, David Tipling

Except 23, 31, 39 (bottom), 40, 71, 74, 76, 77, 78,  
79, 94, 101 (right), 155 (top) © Getty Images

Stephen Moss has asserted his right under the Copyright, Designs and Patents Act, 1988,  
to be identified as Author of this work.

All rights reserved. No part of this publication may be reproduced or transmitted in  
any form or by any means, electronic or mechanical, including photocopying,  
recording, or any information storage or retrieval system, without prior permission  
in writing from the publishers.

No responsibility for loss caused to any individual or organisation acting on or  
refraining from action as a result of the material in this publication can be accepted  
by Bloomsbury or the author.

British Library Cataloguing-in-Publication Data  
A catalogue record for this book is available from the British Library.

Library of Congress Cataloguing-in-Publication data has been applied for.

ISBN (print): 978-1-4729-1206-0

ISBN (ePub): 978-1-4729-2586-2

ISBN (ePDF): 978-1-4729-2585-5

To find out more about our authors and books visit [www.bloomsbury.com](http://www.bloomsbury.com). Here you  
will find extracts, author interviews, details of forthcoming events and the option to  
sign up for our [newsletters](#).

## The Wildlife Trusts

The Wildlife Trusts are the UK's largest people-powered organisation caring for all nature – rivers, bogs, meadows, forests, seas and much more. We are 47 Wildlife Trusts covering the whole of the UK with a shared mission to restore nature everywhere we can and to inspire people to value and take action for nature for future generations.

Together we care for thousands of wild places that are great for both people and wildlife. These include more than 760 woodlands, 500 grasslands and even 11 gardens. You're away from your nearest Wildlife Trust nature reserve and most people have one within a few miles of their home.

Our goal is nature's recovery – on land and at sea. To achieve this we rely on the vital support of our 800,000 members, 40,000 volunteers, donors, corporate supporters and funders. To find the Wildlife Trust that means most to you and lend your support, visit [wildlifetrusts.org/your-local-trust](http://wildlifetrusts.org/your-local-trust)

Importantly, we encourage people to experience wildlife for themselves. We believe that a deeper appreciation for nature conservation can start with a book such as this one by Stephen Moss. We need more people to understand and value the birds and other wildlife that are to be found in our countryside.

*Understanding Bird Behaviour* introduces the reader to the habitats and characteristics of birds in life – how and why birds feed, preen, and react with others of their kind. The author compares such behaviour as courtship, fledging, flight and migration among many different species, and investigates the instincts and circumstances that trigger these behaviours.

Few realise just how endangered much of our British wildlife is. In recent years, once-common bird species such as the sparrow and Starling have declined, mainly due to the demands of that modern human living has placed on habitats.

The Wildlife Trusts believe, however, that it is not too late. Much can still be done to reverse the losses of the past, and we all have a part to play in making this happen. One way is to contact your local Wildlife Trust for information on wildlife activities and volunteering opportunities, and on local wild places. Help us to protect wildlife for the future and become a member today! Visit [www.wildlifetrusts.org](http://www.wildlifetrusts.org) for further information. The Wildlife Trusts is a registered charity (number 207238).

We hope that, with the help of this book, you have fun learning more about birds and their behaviour!



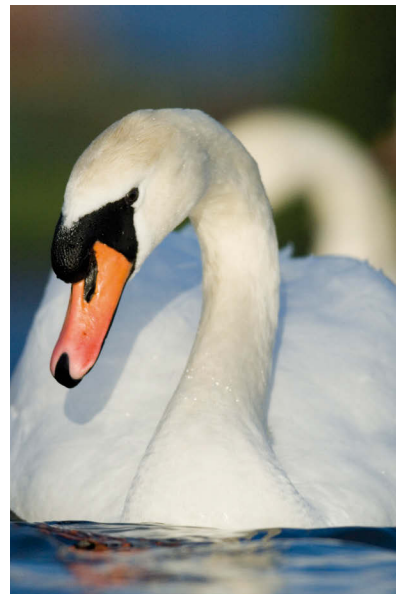
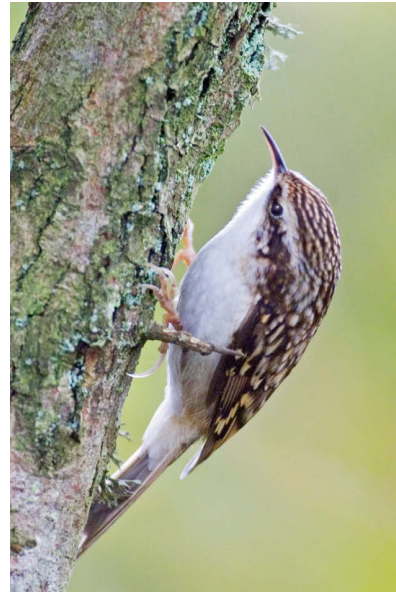
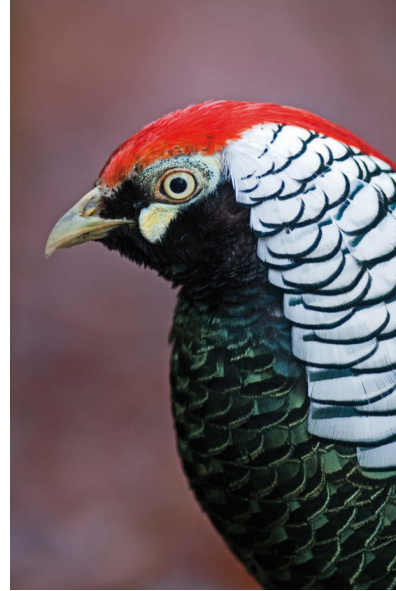


# CONTENTS

Introduction	8
<b>PART ONE: TYPES OF BIRD BEHAVIOUR</b>	<b>12</b>
<b>Chapter 1: Movement</b>	<b>13</b>
• Feathers and flight	13
• Swimming and diving	16
• Walking and running	17
• Flocking	18
• Roosting and sleeping	20
<b>Chapter 2: Feeding</b>	<b>24</b>
• Food types and feeding methods	24
• Predators	28
• Specialist feeders	29
• Drinking	31
<b>Chapter 3: Breeding</b>	<b>32</b>
• Timing	32
• Territory and song	34
• Courtship, display and mating	35
• Nest-building	37
• Egg laying and incubation	40
• Parental care and fledging	41
• Hybridisation	43
• Unusual breeding behaviour	44
• Polygamy	46
<b>Chapter 4: Migration and navigation</b>	<b>48</b>
• Why do birds migrate?	48
• How do birds navigate?	50
• Migration strategies	52
• Unusual migration	55
<b>Chapter 5: Distribution and range</b>	<b>60</b>
• Habitats and their influence on behaviour	60
• Range	63
<b>Chapter 6: Life and death</b>	<b>66</b>
• Moulting	66
• Bathing, preening and feather care	69
• Sight, hearing and smell	70
• Excretion	74
• Temperature regulation	75
• Birds and weather	76
• Disease and death	81

## PART TWO: FAMILIES AND SPECIES

• Ducks, Geese and Swans	85
• Gamebirds	90
• Divers and Grebes	92
• Seabirds	94
• Herons and Egrets	98
• Raptors	100
• Rails and Crakes	104
• Waders	106
• Gulls and Terns	114
• Pigeons and Doves	117
• Owls, Cuckoo and Nightjar	119
• Parakeet, Kingfisher and Dipper	122
• Woodpeckers	124
• Swift, Swallow and Martins	126
• Larks, Pipits and Wagtails	128
• Thrushes and Chats	131
• Robin, Dunnock and Wren	135
• Warblers	137
• Flycatchers	142
• Tits, Nuthatch and Treecreeper	143
• Shrikes	146
• Starling	147
• Crows	148
• Sparrows and Buntings	151
• Finches	153
Glossary	156
Useful addresses	157
Further reading	157
Index	158
Acknowledgements	160



# Introduction

Studying bird behaviour is one of the most fascinating and potentially rewarding aspects of watching birds. But where do you start? At first, understanding what birds are doing, and more importantly why, can be confusing – especially if you are a newcomer to birding. Is the aspect of behaviour you are witnessing a normal part of daily life, or something unusual? Will your presence disturb the bird and force it to behave out of character? And how do you interpret some new or different aspect of behaviour you have not witnessed before?

Hopefully, this book will provide some of the answers to these and many other questions. Its purpose is threefold:

▼ *Snow Buntings often spend the winter on shingle beaches*

- i) To provide an introduction to the various different forms and aspects of bird behaviour, categorised by subject



- ii) To indicate specific types of behaviour characteristic of certain species or family groups
- iii) To be a work of reference – use the index to look up either a particular species, or a specific aspect of bird behaviour

The book is divided into two parts, each of which can be read independently, or you can cross-refer between them.

**Part 1** covers the various types of bird behaviour, such as flight, courtship, predation and migration, loosely grouped under the chapter headings of **Movement, Feeding, Breeding, Migration and Navigation, Distribution and Range,** and **Life and Death.** This provides a quick and easy reference to specific behaviours.

**Part 2** is arranged by families, or groups of similar birds, such as seabirds. This includes the 200 or so species that you are most likely to encounter in Britain, some common, others scarce, with details of behaviour common to a particular species or group. This enables you to look up particular species and get some insight into their behaviour, though for reasons of space this cannot possibly be comprehensive. If you are interested in following up the behaviour of a particular species or family, details of suitable works can be found in the Further Reading section at the back of the book.



▲ *Blackbirds sing on spring evenings from the roofs of houses*





▲ A pair of Fulmars during their elaborate courtship display



▶ Like many hole-nesting birds, Blue Tits readily take to using nestboxes

For much of the second half of the 20th century, thanks to major advances in field guides and optics, birding focused mainly on two related aspects: identification and rarities. While these are both fascinating and important, for a long period they came to dominate birders' minds at the expense of another vital aspect of understanding and enjoying birds, that of studying and interpreting their various behaviours.

With the recent gradual decline of rarity-ticking ('twitching'), and a more enlightened attitude towards the pastime of birding as a way of getting back in touch with nature, the study of bird behaviour is due a renaissance. This book is a small contribution towards encouraging all birders to take a closer interest in what to me personally is by far the most fascinating aspect of watching birds: their behaviour.

## Code of Conduct

When watching birds, the welfare of the bird must always come first. Deliberately flushing a bird in order to identify it, getting too close in order to get a good view or a photograph, or disturbing a nesting bird are all unacceptable. Indeed causing disturbance to a Schedule 1 breeding bird at or near the nest is not just wrong but illegal. (For details of birds on Schedule 1 visit the RSPB website.)

▼ *Redwings often visit gardens during hard winter weather, to feed on windfall apples*



## PART ONE:

# TYPES OF BIRD BEHAVIOUR

The first half of this book deals with the different types of bird behaviour. For the sake of convenience, these are divided into six chapters, each of which deals with a range of related aspects of behaviour:

### 1 MOVEMENT

- Feathers and flight
- Swimming and diving
- Walking and running
- Flocking
- Roosting and sleeping

### 2 FEEDING

- Food types and feeding methods
- Predators
- Specialist feeders
- Drinking

### 3 BREEDING

- Timing
- Territory and song
- Courtship, display and mating
- Nest-building
- Egg laying and incubation
- Parental care and fledging
- Hybridisation
- Unusual breeding behaviour
- Polygamy

### 4 MIGRATION AND NAVIGATION

- Why do birds migrate?
- How do birds navigate?
- Migration strategies
- Unusual migration

### 5 DISTRIBUTION AND RANGE

- Habitats and their influence on behaviour
- Range

### 6 LIFE AND DEATH

- Moulting
- Bathing, preening and feather care
- Sight, hearing and smell
- Excretion
- Temperature regulation
- Birds and weather
- Disease and death

To find information about particular species you may also want to refer to the second half of the book, which deals with behaviour on a family-by-family basis.



## Chapter 1

# Movement

## Feathers and flight

One of the characteristics of birds that separates them from most other animals (apart, of course, from bats and many insects) is their ability to fly. They are able to do so because of their unique body structure: a light, hollow skeleton supporting feathers, enabling them to get and stay airborne. That said, different groups of birds have evolved many different ways to fly, including soaring, gliding and flapping with the help of the wind, and using air currents such as thermals.

Birds are able to fly because over many millions of years their bodies have undergone particular adaptations: most importantly the evolution of feathers. These light, versatile structures, probably evolved from reptilian scales, were present in some dinosaurs and today are unique to birds. The flight feathers in the bird's wings and tail are stiff and long, enabling birds to gain and maintain lift and manoeuvre themselves through the complexities of air currents once aloft. In addition, a bird's skeleton is also highly adapted to flight, with strong but hollow bones carrying the minimum of extra weight, meaning that birds are by far the lightest animals for their body size. A **Mute Swan**, for example – one of the world's heaviest flying birds – weighs a mere 10–15kg compared with well over 100kg for a similar-sized mammal.

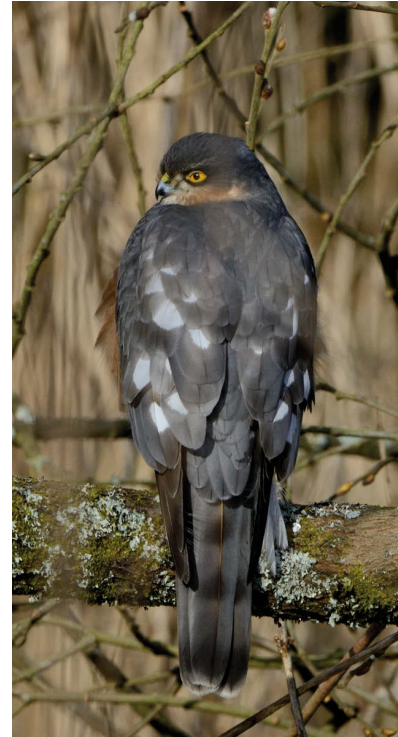
▼ *A Great Shearwater lives up to its name, gliding low over the waves*



The classic flight mechanism is flapping: moving the wings up and down to gain lift. It is generally used for short, direct flights – for example, a songbird moving from tree to tree – as it consumes a lot of energy. Once aloft, or when travelling for any distance, most birds prefer to use less energy-expensive methods of moving through the air, including gliding and soaring. Seabirds such as **albatrosses** and **shearwaters** are the world's greatest gliders, taking advantage of updraughts from the ocean surface to maintain their position just above the waves, where they can move forward using minimal energy, and hardly flapping their wings for many hours on end. Raptors such as **hawks**, **buzzards** and **eagles** also use gliding flight, during which they put their wings in a position which reduces surface area and allows rapid forward movement while maintaining lift.

▼ *Raptors such as these Common Buzzards use various flying techniques, including flapping, soaring and hovering*





Raptors also spend much of the time soaring, a flight style particularly common amongst large, heavy birds, which otherwise would struggle to stay airborne for any length of time. When soaring, a bird like a **Common Buzzard** will spread its wings as wide as possible, maximising their surface area, then take advantage of thermal currents of rising warm air to gain height. Once aloft, it can circle around for some time, again using the minimum of energy. Soaring is generally used to maintain altitude rather than move any distance.

To see the difference, watch a **Sparrowhawk** as it soars overhead on broad, outstretched wings; then see how it changes its wing angle, narrows the wings, and glides rapidly across the sky, appearing quite different in shape from before.

Scientists have compared flight with other mechanisms of locomotion such as walking or swimming, and revealed that it is extraordinarily efficient in comparison. For example, Usain Bolt – the fastest sprinter on the planet – covers the ground at about five body-lengths per second, while the world's fastest land animal, the Cheetah, can manage 18 body-lengths per second. But a flying bird can reach up to 70 or even 80 body-lengths per second, comparable with a jet aircraft. This not only allows birds to get to their destination quickly, it also enables them to cover vast distances, especially on migration, when even a small bird such as a **Swallow** needs to travel thousands of kilometres.

▲ *Sparrowhawks have a characteristic flight style, alternating a series of flaps with a short glide*