

Preface

It is now more than 15 years since the first edition of this book was published in 1996. As with most fields of science, the understanding of migration has advanced markedly in that interval with respect both to new data and to conceptual understanding. The time therefore seems overdue to provide an updated survey of the field with analysis of its tenets and assessment of its progress. This book is, then, more of a sequel than a second edition. Although portions of the First Edition are included within the text along with some figures, these are included to provide, usually, historical continuity. The overwhelming majority of the material in the text comes from research on migration that has been done since 1996, and I have made a conscious effort to refer back to earlier work only where it still obviously includes the best examples or is necessary to understand what has been learned since. Added stimulus to write this sequel is provided by the universality of movement among living organisms and its contribution to adaptation and life histories. Movement has been characterized as one of the ten great "inventions" of evolution (Lane 2009), and movement was the subject of a special feature in the Proceedings of the National Academy of Sciences (USA) (Nathan 2008). Migration is a very special and elaborate form of movement, and I shall emphasize both its special nature and its characteristics that make it distinct from other movements such as foraging, ranging, and commuting.

As with the first edition, this book is not taxon-limited, and it focuses on the similarities among migrants as well as on the differences that characterize the behavior in different taxa. There continue to be excellent books devoted to migration in specific groups. These include books on birds (Newton 2010), insects (Drake and Reynolds 2012),

and salmon (Quinn 2005). At least one recent multi-authored work has considered migration across taxa (Milner-Gulland et al. 2011), but with a vertebrate and ecological modeling emphasis, whereas I place heavy emphasis here on the characteristics and evolution of migratory behavior as well as its ecology. Like its predecessor, this book is a further attempt to find common ground and to consider migration as a biological phenomenon rather than as a behavior in a taxon that I study. As before, I hope readers will inform me of errors, misinterpretations, or faulty logic they may find. I am grateful to those who corrected facts or interpretations in the 1996 edition, and where still relevant, these corrections have now been incorporated.

Once again I have written this book for students of migration and for those biologists who are generally interested in the functioning and adaptations of whole organisms. A reasonable background in biology should allow readers to understand the discussion, and it is my hope that the readership will include graduate students at all levels and even upper division undergraduates. Scientific terminology is necessary for a book such as this, but I have tried to define any unusual or highly specific terms. It is further my hope that, as I have endeavored to be as jargon-free as possible, the book will be intelligible to lay persons interested in conservation or natural history.

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H. D.

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