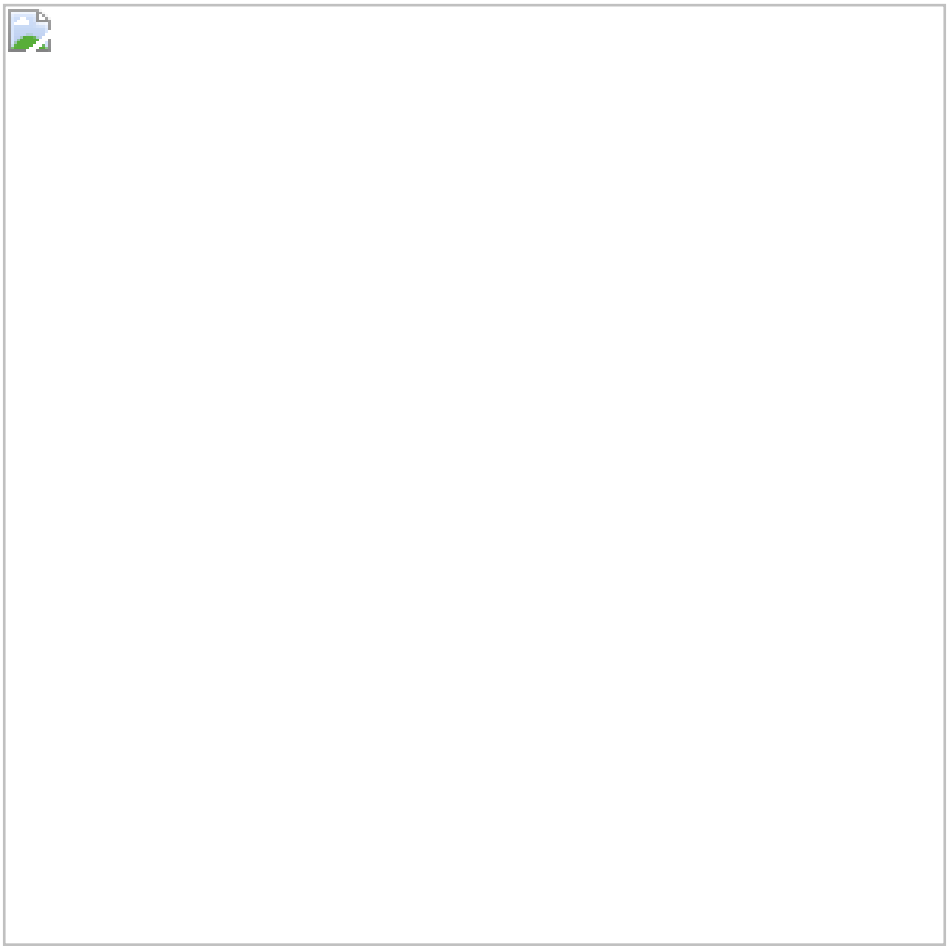

The Migration Ecology of Birds.

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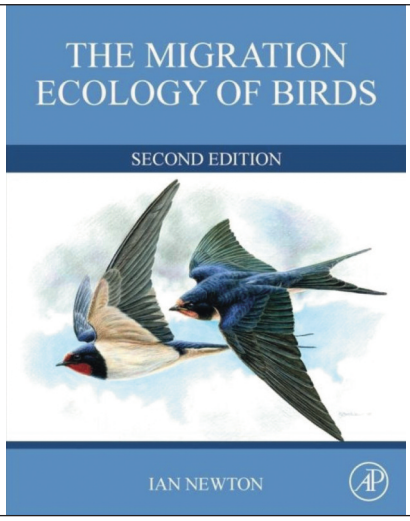
Newton I. 2024. The migration ecology of birds. Second edition. Academic Press, London. Hardback, XVI + 707 pp. ISBN 978-0-12-823751-9. Price € 154.99.



Since the 2008-edition was published, the research on bird migration has exploded to such an extent that almost one-third of the more than 3000 scientific papers and books cited were published after the first edition went to press. Many chapters were henceforth substantially updated (mind you, the publication rate is murderous and any attempt at keeping track of all of the various fields involved is doomed) and three more chapters were added (on Seabird movements, Stopover ecology and the East Asian-Australasian Flyway), whereas a single chapter was largely skipped (on Vagrancy). The second edition is in larger format than the first, with 54 lines a page with a setting mirror of 17 cm, which translates as a lot of dense text per page. Fortunately, the text is enlivened with hundreds of maps, graphs, tables and boxes (no photographs, but there are B/W illustrations by Keith Brockie opening the 31 chapters). The cited literature in small type is relegated to the end of chapters. I had to delicately read and browse, because the binding is adhesive instead of sewn. That apart, it is the content that counts, and what a content it is. Even after many books on migration, among others those of Schüz, Matthews, Keast & Morton, Greenberg & Marra, Berthold, the Wiltschko's, Gwinner, Alerstam, Chernetsov and Rappole, Newton's effort stands on its own and provides the interested reader with the most comprehensive review of migration ecology. Perhaps only the in-crowd will find something at fault (and certainly missing, not surprising given the vast arena) in the text, but anyone interested – professionally or as an amateur – is likely to encounter eye-openers, surprising compilations of data and flabbergasting material. The text is, as we have come to expect from Ian Newton, a joy to read: straightforward and well explained when entering the more esoteric realms of sensory systems, orientation and navigation, physiology and evolution. The layout of the chapters' contents in itself is perfectly clear. It is easy to find whatever strikes the imagination or interest, not least because of the many subdivisions (an improvement on the 2008-edition) and further helped by a 23-page index in which the subjects are subdivided to such an extent that I hardly ever had to resort to adding subjects and/or page numbers (e.g. protandry).

The one thing that strikes the reader when going across the chapters is the wide variety of options open to birds, despite the evolutionary 'burden' attached to families and species. This involves about every aspect of their lives, be it types of movements, genetic and facultative adaptations, physiology, flight, fuelling, diets in preparation of migration, moult, orientation and navigation, annual cycles, control mechanisms, stopover ecology, sex and age differences in migration, dispersal, site fidelity and whatnot. Obviously, there are many routes leading to Rome. Those routes change all the time, responding to short-term stochastic events (e.g. weather) as well as to more enduring changes in the longer run (e.g. climate, habitat loss/fragmentation). This is most evident in the well documented shifts in the timing of migration (in spring and/or autumn), main directions, wintering areas, behaviour (from migratory to sedentary, or vice versa), stopover ecology and genetic responses. But it is also a feature of daily life, illustrated for example by changes of flight altitude in response to local and regional weather conditions, by correction for drift (even over the seemingly featureless open ocean, also by juveniles with no experience), reverse migration and detours, not to mention physiological adaptations (down-sizing or increasing organs within the spade of days), moult schedules and trade-offs within annual cycles. Even within the limits posed by glacial legacies the variety and number of options is bewildering. Birds all over the world are under threat, and migratory birds even more so than residents, but their resilience to change is uncanny, to say the least. This book on migratory birds is a testimony to that effect. Two chapters on population limitation with another on mortality during migration specifically highlight the impact of breeding and wintering areas, and stopovers in between, on survival and reproduction. This has been studied mostly in the larger species (geese, ducks, waders and terns, large

enough to carry loggers and the like). Studies on passerines are still scarce or short-term without much ground-truthing or experiments, except for the wonderful long-term studies in both wintering and breeding grounds in the Nearctic-Neotropical migration system (something not even remotely the case in Africa or Asia).

The scope of 'The migration ecology of birds' is enormous, a fitting tribute to the multifarious subject and the key players involved, i.e. the birds.

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