

Book review

An excellent review on bird migration

Ian Newton 2008: *The Migration Ecology of Birds*. – Academic Press. 976 pp. ISBN 978-0-12-517367-4.

Ian Newton is one of the most productive authors of ornithological handbooks. In addition to having made a highly respected career as a specialist on finches and from the 1970s on many raptor species, he has written several top-quality books which review an amazing quantity of scientific data in a concise and informative way.

These include, for example, *Population ecology of raptors* (Poyser 1979), *Population limitation in birds* (Academic Press 1998) and *The speciation & biogeography of birds* (Academic Press 2003).

Although there are several recent books on bird migration, Newton's exceptional ability to review the essential knowledge from thousands of scientific papers in a logical way has now led to publication of the best and most updated of them. Research on bird migration has gone forward rapidly even in recent years due to satellite telemetry and other increasingly sophisticated methods. Newton concentrates on most recent developments in migration research, but he also summarizes older knowledge. The book deals with all aspects of bird migration, and for those interested in original data, it also lists a few thousand citations on 111 pages.

After an introductory chapter 1, chapter 2 reviews the methods behind the newest results. Ringing and laboratory experiments have been among the main techniques during the 120 years of scientific study on migration, but the development of smaller tracking devices in particular initiated a significant breakthrough in monitoring migratory flight.

Part one of the book includes eight chapters which deal migratory flight, weather effects and other aspects, fuelling the flights, incredible journeys, raptors and other soaring birds, speed and

duration of journeys, finding the way, and vagrancy.

The timing and control of migration is the main topic of part two, with chapters on annual cycles and control mechanisms. Part three concentrates on large-scale movement patterns, with separate chapters on geographical patterns, seasonal occupation of breeding areas, sex and age differences in migration, variations on a migratory theme, site fidelity and dispersal, and irruptive migrations, both on boreal seed-eaters and on owls, raptors and waterfowl.

Part four reviews evolution and movement patterns of migratory flight. The chapters deal with evolutionary aspects, recent changes in bird migrations, biogeographical legacies, and distribution patterns. Finally, part five on migration systems and population limitation discusses population ecological questions, on which Newton is a leading expert in the ornithological world. The five chapters separately present Palaearctic–Afrotropical and Nearctic–Neotropical migration systems, questions on population limitation in breeding and in wintering areas, conditions on stopover sites, and mass mortality of migrants. There is a useful glossary before the references.

This book is an impressive source of knowledge on the most fundamental issues on bird migration. It includes an immense amount of data which is presented in a lucid style, readable to everyone seriously interested in birds. Original data can be found in tens of tables, maps and diagrams. Results from various parts of the world on various bird groups are presented, with many examples from Finland showing our long history on migration study and especially large-scale ringing. Summaries and concluding remarks provide good overviews of the contents. This book is the most thorough and updated review of all aspects on migration, a “must” to all professional ornithologists and keen amateurs.

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