

Book Reviews

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Source: *Ardea*, 102(1) : 109-114

Published By: Netherlands Ornithologists' Union

URL: <https://doi.org/10.5253/078.102.0108>

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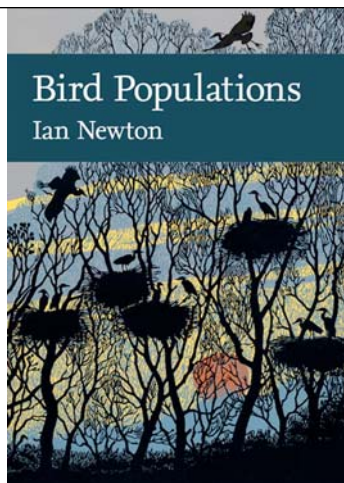
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Book reviews

Newton I. 2013. Bird populations. HarperCollins Publishers, London. Paperback, XII + 596 pp., many tables, colour pictures and figures. ISBN 978-0-00-752798-4. £35, €49,95.



Every bird ecologist or conservationist is familiar with the idea that from year to year bird numbers tend to go up and down, yet most often they do so within limits. One could explain this by the balance between recruitment during the breeding season and mortality during winter or in other parts of the year, but this still leaves us with a black box of causation. Hidden within is a complex world of often interacting factors, either natural (food, nesting sites, predation, parasites and competition), or human-induced (hunting and pollution) that may in some way determine the abundance of species within the habitat they use. In *Bird Populations*, Ian Newton, well known for a number of books, including *Finches* (1985), *Population Ecology of Raptors* (1979), *The Sparrowhawk* (1986), *Lifetime Reproduction in Birds* (1989), *Population Limitation in Birds* (1998), *Speciation and Biogeography* (2003), *The Migration Ecology of Birds* (2007) and *Bird Migration* (2010), sets out to bring together a wide range of examples from bird species that occur in Britain and Ireland to show why particular species are as numerous as they are, why some populations fluctuate more than others, why some are increasing and others decreasing. Newton also dips into studies of these species elsewhere, including their various wintering areas.

Bird Populations contains nearly 600 pages, has a convenient A5 size, many illustrations and a well-groomed lay-out. Some of the information presented in

it is taken from Newton's other book on bird populations, *Population Limitation in Birds*, but it has been updated with a lot of new findings, nearly two-third of the references cited being published since 1998, the year that the latter volume was released. Yet, while *Population Limitation in Birds* was primarily aimed at professionals and research students, in *Bird Populations* Newton complies with *The New Naturalist Library* philosophy "to interest the general reader in the wild life of Britain by recapturing the inquiring spirit of the old naturalists". Newton's lucid and economic writing style, the simple language without jargon, the restriction to common species names (except when species are referred to in legends) make the book a comfortable and accessible read for a general public. Most bird species that feature in the book are illustrated with a photograph.

The first part of the book deals with the various natural factors that affect bird numbers, such as food, nest site availability, predators, parasites and interspecific competition. Those chapters offer crystal clear explanations of population regulation principles, richly illustrated with interesting details about the relevant bird populations. The impacts of limiting factors on the individual and on populations are treated in separate chapters. Although called natural factors, the idea builds up to what extent these limiting factors are really natural. Humans have widely influenced the range or the numbers of birds, via both nesting opportunities (e.g., nest boxes), and food supply (offal, garden feeding). As to the latter, Newton engages in such an empathic way with the reader that he even provides them with practical advice as to bird feeding. In view of the disease risk that clings to high densities of birds at regular feeding sites, Newton recommends disinfecting feeders periodically with a 1:10 dilution of household bleach and water.

Newton devotes three chapters on the often intriguing interactions between different limiting factors. Such interactions are frequently underrated in nature management. For instance, the well-intentioned perching and nesting opportunities that are created for some species can have negative effects on others. Kestrels *Falco tinnunculus* nesting in boxes provided for them, impeded the settlement of Skylarks *Alauda arvensis* and other small birds in the same area (Suhonen *et al.* 1994). Similarly, due to the strong increase in prey visibility with predator search height, obstacles in an open landscape can prevent foragers from exploiting food

resources, which suggests that removal of predator perches can improve the survival of endangered prey populations in open habitats (Andersson *et al.* 2009). These examples illustrate that, being the result of long-term evolutionary processes, species-habitat relationships and relationships between species cannot be enforced. But they also show the importance of non-lethal effects of predation.

Much more explicitly than in *Population Limitations in Birds* (1998), Newton emphasises these non-lethal effects of predation, which imply that predators can have much bigger effects on bird populations than expected by the numbers of birds killed. Predators may restrict the range of nest sites and foraging areas, the time devoted to foraging and the level of body reserves. He further stresses the idea that birds pay for safety with a price (the cost of predation) that can be expressed in terms of loss of energy and hence in individual performance and, at the level of the population, in terms of lost resources and hence in population size and distribution. Newton imagines the 'landscape of fear', a contour map of predation danger, with some species avoiding cover, which can hide predators, and others using cover as a safe retreat. The 'landscape of fear' concept was coined and further developed by Joel Brown and colleagues (e.g., Brown *et al.* 1999, Brown & Kotler 2007), but, oddly enough, these studies were not referred to. Interestingly, as an analogy to the starvation-predation trade-off, Newton suggests that a starvation-parasitism trade-off may occur, with starving birds being obliged to accept potentially dangerous prey (parasites) that they would normally avoid.

The rustic atmosphere of British country life that Newton evokes in his book is most prominent in the chapters about hunting and killing. He describes that, along with other field sports, game shooting has helped to shape the countryside, with lowland woods planted as Pheasant *Phasianus colchicus* coverts and upland heather moors managed specifically for Red Grouse *Lagopus l. scotia*. In his historic overview of game hunting we learn about the principles of game management, in the context of guns, hunting practices, land ownership and large-scale release of artificially-reared game in Britain (35 million birds annually!). Also, bird killing and egg collecting for subsistence in times past is dealt with extensively. Then, in the final chapters, Newton discussed the effects of pesticides and pollutants (such as lead from buckshot, oil and plastics), and how the impact of acids on habitats depends on the type of substrate (e.g., the degree of buffering).

In his book Newton shows his craftsmanship in accessible writing. The wealth of illustrative informa-

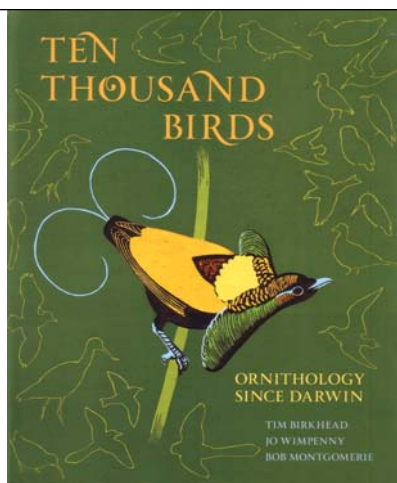
tion in *Bird Populations* will undoubtedly enrich future field adventures of many naturalists. Yet, this book is also suitable for students that are looking for a clear and comprehensive introduction to population processes in birds. The 27 page reference list will help them to elaborate on this subject.

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Birkhead T., Wimpenny J. & Montgomerie B. 2014. *Ten thousand birds: Ornithology since Darwin*. Princeton University Press, Princeton. ISBN 978-0-691-15197-7. Hardcover with dust jacket, XX + 524 pp., many photographs, diagrams, graphs, maps and timelines. €33.99.



Birdwatching has become a full-fledged science: ornithology. The number of ornithologists has exploded in the second half of the 20th century. The 360,000 ornithological publications since *The origin of species* was published in 1859, an estimate based on *Zoological Record* and *Web of Science*, must be a minimum since amateurs have been at least equally prolific. A telling graph in the preface of the present historical overview shows the number of scientific publications over time, a steady trickle from the 1860s to the 1960s (hundreds per year), then an upsurge to almost 20,000 annually in the 2000s. In more than one respect, the 1960s were a watershed in ornithology. In the late 19th century through the first half of the 20th century, ornithologists focused on systematics and faunistics, with a smaller but no less dedicated group interested in oology and breeding biology, the latter exemplified *par excellence* by *Beiträge zur Fortpflanzungsbiologie der Vögel mit Berücksichtigung der Oologie*, a two-monthly journal that started in September 1924 and kept being issued well into the Second World War. My run of this journal, from the library of François Haverschmidt, ends in September 1944, when Operation Market Garden (to liberate Arnhem) prevented further delivery in The Netherlands and the Soviet Baltic Offensive created havoc in the German homeland. One of the authors in this issue was Otto Steinfatt, an ornithologist from Mecklenburg who had filled the pages of *Beiträge* with numerous in-depth studies on the breeding biology of birds (and wrote a seminal paper on raptor migration

at the Bosphorus; *Journal für Ornithologie* 80, 1932: 354–383); he was murdered on 1 May 1947 by a ‘fremdländischen Banditen’ (a euphemism, used by Ludwig Gebhardt in his *Die Ornithologen Mitteleuropas, Teil 1*: 345, to imply a Russian soldier). Steinfatt, nor thousands of other ‘foot soldiers’, found their way in *Ten Thousand Birds*, because the authors centred their attention on ground-breaking scientific discoveries and the individuals responsible for major breakthroughs. Hence, the focus is on scientists and – mainly – books. Indeed, the latter are perhaps a better vehicle to vent scientific discoveries than peer-reviewed papers, as books “provide authors with intellectual freedom to express ideas...”. And no lack of ideas after Darwin’s rattle at evolution’s door.

Ornithology has seen its share of histories. Grand views like Stresemann’s *Die Entwicklung der Ornithologie* (1951), but also specific biographies of ornithological societies, persons (like Voous’s *In de ban van vogels*, and Gebhardt’s *Die Ornithologen Mitteleuropas*) and books about bird books (a symbiosis since the dawn of printing). A long list of histories has been included as Appendix 1 in *Ten Thousand Birds*, covering all continents except Africa (but many ornithological histories can be found in avifaunas from Algeria to Zambia) and South America. The present tome is organized along the major themes that were *en vogue* between 1850 and 2000. It is eminently readable. Although two of the writers are from Britain and one from Canada, they did a wonderful job not to bias the book too much against non-English sources. Even so, ornithology seems to be a science largely restricted to the affluent western world, with the UK taking pride of place. Of the 500 ornithologists specifically mentioned in Appendix 2, an illustrious company of hotshots, the UK produced on average 2.5 ornithologists per one million inhabitants, followed by Sweden and New Zealand (1.2 each), The Netherlands (1.1) and Austria, Ireland, Denmark, Germany, Finland, USA and Australia (0.5–0.9). The author’s tongue-in-cheek remark of having avoided gender bias with Jo Wimpenny on the editorial team falls flat in the face of the female score in Appendix 2 (7% female, although the authors did some window dressing in the selection of photographs of a selection of individuals: 19% female). Let’s face it: ornithology has been, and to a large extent still is (but there are changes in the wind) a white male’s plaything.

The thematic approach follows the successive waves of interest since Darwin published his *Origin* (in 1859), a clear illustration of how science works: a few visionaries lit the fire, and hundreds of lesser gods join

the bandwagon until another playground surfaces. Fascinating reading! The themes range from the origin, systematics and speciation of birds, via migration studies to ecological adaptations for breeding, anatomy, ethology and behavioural ecology, population regulation and conservation. Readers familiar with the first author's books will find much that is familiar (Sperm competition, Red Canary, Wisdom of Birds, Bird Sense), but that shouldn't detract from buying this book as it offers so much more. What sparks an idea, and how and by whom is it cradled into a full-fledged theory? What empirical evidence is available to back-up or discredit ideas? What research is instigated in the wake of a new idea? Is the personality of a protagonist/opponent of any importance (yes, it is, they are just like ordinary people: strong-headed, jealous, open-minded, fair, generous...). What exactly makes an idea long-lived or leads to its downfall? And why do some fields of research resurface after decades of neglect, such as systematics and migration (the trigger is often novel techniques, like genetics and stable isotopes, or the introduction of sophisticated gadgets, like data loggers and geolocators)? Each trend is fuelled by protagonists and books. This is graphically illustrated with timelines (1860–2010), in which the sequence of events from start (at the bottom) to present (at the top) is visualised along an axis: the left side of the axis shows publication dates (and covers) of pivotal books, the right side starting dates of important studies. The timeline for population ecology, for example, starts as late as 1907–14 (Howard's *British Warblers*), and climbs via Lovat, Howard, Grinnell, Nicholson, Lack, Andrewartha & Birch and Wynne-Edwards to Newton's *Population limitation in birds* (1998). The studies include Wolda's pioneering work on tits near Wageningen (1911), the massive Wytham Woods study on Great Tits and MacArthur's study on competition and niche in wood warblers (not the European one). Although sometimes different choices could have been made (I would have included *Avian breeding cycles* by Murton & Westwood, for example, in the timeline for Breeding adaptations), in general the timelines reflect a balanced overview of important books and events.

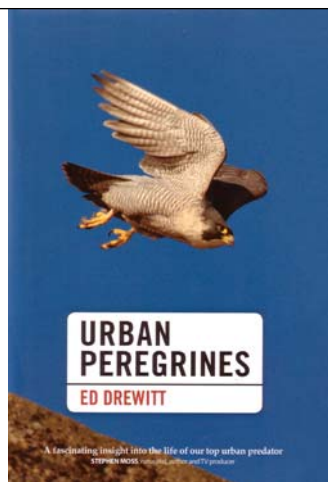
Ten Thousand Birds should be compulsory reading for biology students, particularly as many refrain from delving into knowledge that is not digitalised, older than five years or exceeding ten pages of text. How can you do science not knowing the shoulders on which you stand, the fallacies that come and go (but may persist for decades), the idiosyncrasies of protagonists of past and present theories, the many wonderful books that have been published and that grace progressively

fewer homes (but can be found in libraries and – often cheap – on the internet). Indeed, as the authors lament, why do so few scientific papers pay tribute to past achievements (apart from the sterile citation of – which is something else than having read and digested – some supposedly pivotal papers)? And in the same vein, what happened to writing in a lucid style, which has become anathema in peer-reviewed science (except in books)? Pick up this book, and you will be rewarded with a treasure trove. Perhaps it is a stimulus to construct other timelines, specifically designed for your own country (local heroes writing in other languages than English, German or French have been overlooked but had a huge impact in their own country: Pontus Palmgren, for example, the Finnish Joseph Grinnell, or Ygnvar Hagen, author of the Norwegian classic *Rovfuglene og viltpleien*, or Otto Uttendörfer, Lukas Tinbergen, Leo Zwarts, G.P. Dement'ev, V.R. Dolnik, Feliks Shtilmark, etc.), or for amateurs. Even better: to write a book about your own research, allowing freedom of opinion, passion, serendipitous moments, side paths, 'irrelevant' details, poetic prose, humour and what not. In short: a flurry of fresh air in the rather stifling scientific arena. The personal interviews scattered across *Ten Thousand Birds* prove how refreshing such an approach can be; the audio-recordings are available at www.myriadbirds.com.

The book is produced in large format, printed on high-quality paper and well bound (although my copy started to fall apart, perhaps indicative of intensive thumbing). The illustrations include historical photographs of persons and places, but also study designs, collections, birds and artwork. Each chapter has its own section of notes with extra information (at the back of the book), references take up 30 pages (and are abbreviated at that) and the detailed index includes persons and subjects (with photographs, drawings and graphics in italic). In short, also a book made by book lovers for book lovers (and others).

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Drewitt E. 2014. *Urban Peregrines*. Pelagic Publishing, Exeter. ISBN 978-1-907807-81-7. Hardback with dust cover, XVI + 208 pp., lavishly illustrated with photographs. €31.99.

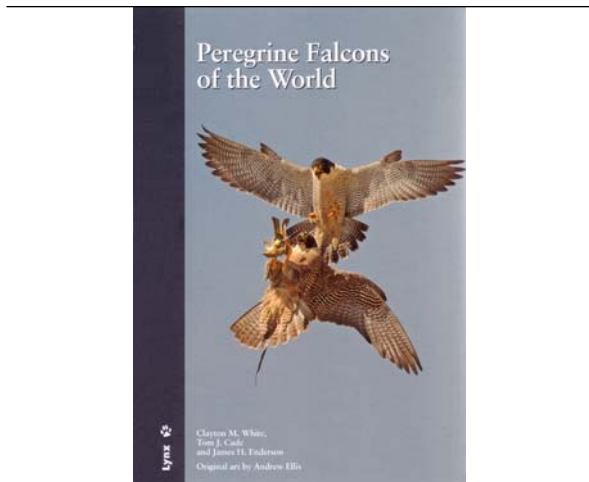


If there is any species that disproves the concept of ‘wilderness’, than the Peregrine. In the older literature, Peregrines epitomised everything that embodied ‘wild and free and unspoiled’ (whatever that may be), and look where it got the bird! A Peregrine breeding in the Yamal Peninsula, Arctic Russia, travelled 4188 km to winter in central Bagdad, and another satellite-tagged bird from the Popigai river in the Krasnoyarsk Region travelled a great circle distance of 5420 km to winter in New Delhi (Dixon *et al.* 2013, *Falco* 41: 4–6). For birds, the world is a place with differing opportunities, and labels like ‘wilderness’ are inventions without biological meaning, used by philosophers and PR-people in conservation societies. The present book does not really enter into the question of how Peregrines discovered cities as places to settle as a breeding bird (although reference is made to descriptive Italian findings by P. Taranto, apparently as published in *Peregrine Falcon populations: status and perspectives in the 21st century*, Sielicki J. & Mizera T. (eds) 2009: 725–728; *Urban Peregrines* is – unfortunately – poorly referenced), but rather describes the opportunities urban Peregrines offer as study and educational material. It is, despite a statement to the contrary, a book about Peregrines in the UK; the vast literature of urban Peregrines in Poland, Germany, The Netherlands, France and Italy is ignored (except some published in the aforementioned proceedings). However, the book is worth buying, as it offers sufficient first-hand information to add to the vastly growing body of data on urban Peregrines, although you will not find any analysis of research. It is

a ‘How to’-book. The first-hand experiences are what makes the book attractive: observation methods in an urban setting (in many respects identical to those employed elsewhere, but not without its specific tricks related to buildings and an abundance of people), timing of reproduction (exemplified by a general ‘year in the life of an urban Peregrine’), food and feeding (again: no results, but where to find prey remains and what to look for when identifying pluckings), and how to do ‘citizen science’. The latter is particularly useful, as it combines the expertise of practitioners, urges for caution in the placing (and control) of nest boxes and emphasises the need for organisation (time, tasks, responsibilities, maintenance). It may look simple, studying urban Peregrines, but it is easy to make wrong decisions (for example, a wrong design or placing of a nest box kills chicks). The chapter that attempts to dispel common myths about Peregrines should have included another myth that is elaborately perpetuated by the author elsewhere in the book, i.e. the one of Peregrines being the fastest bird in the world. Perhaps not untrue at face value (although we don’t know ‘maximum’ speeds of most bird species), but the implication that Peregrines use such speeds routinely during hunting is just a guess (and likely untrue). Why would a Peregrine stoop with speeds of >200 km per hour when most prey species fly at speeds of far less than 100 km/h? It is a risky enterprise, stooping, and except for some experiments where falcons were pushed to extremes, very little information is available on *average* flight speeds during hunting. My guess would be: much slower than maximum. Furthermore, why walk into the trap of glorifying the fastest-biggest-meanest-poisonest-whatever animal, a concept invented for TV and Youtube but without biological meaning? Does it make the Peregrine more special than – say – a Willow Warbler?

(RGB)

White C.M., Cade C.J. & Enderson J.H. 2013.
Peregrine Falcons of the world. Lynx Edicions, Barcelona.
 ISBN 978-84-96553-92-7. Hardback, 386 pp., many
 photographs. €22.



No other raptor has received so much attention as the Peregrine Falcon, so why shower another book on this species? The three authors, all of them intimately associated with Peregrines since the 1950s and 1960s, are fully aware of the well-filled library (not least because they helped filling it). But as they say: the overwhelming majority of texts is about Peregrines in Britain, North America or, more general, in the Holarctic. At the global scale, and Peregrines are cosmopolitans, much less is known of, or written about, those breeding in tropical regions or in the southern hemisphere. This book attempts to redress this imbalance by pulling together all information available for all subspecies of Peregrines across the world. The authors are eminently qualified for such an exercise, having the advantage of well-stocked libraries, a lifetime of field experience, a huge network of Peregrine aficionados and >3200 stuffed Peregrines in museum collections (the latter's measurements, i.e. wing length, wing width, tail, tarsus, toe and bill width are explained and summarised in an appendix). A daunting task, to say the least, and complicated by the taxonomic mess surrounding Peregrines. For, despite an assortment of molecular techniques being available and used, the (sub)specific identity of many populations is still a riddle. In fact, the emphasis on subspecific identity in this book is a bit puzzling, even when it may have a bearing on differing rates of evolution (here conceived as external expression versus molecular fixation) and conservation. Clearly, a revision is needed, but this is the domain of molecular biologists rather than field-

workers; the latter are still important, though, to provide data on the ecology which may have a bearing on how evolutionary pathways are working out in practice (niche differences, interbreeding). The minutiae of plumage (and morphological) differences, in the present book dealt with in excruciating detail, are most likely largely irrelevant in the light of molecular data (and difficult to replicate anyway). (In Bernd Heinrich's *The Snoring Bird*, he describes his father's lifetime work on the classification of Ichneumonidae based on "minute details of body sculpturing, color, and dimensions", largely ignored now that molecular techniques are used to identify species and phylogenies, a bitter disappointment to his father.)

The power of the present book, therefore, does not lie in the attempts to clarify subspecific identities, but in the collection of life-history data from as many places across the earth as possible. Although Holarctic falcons still get more attention than others, not surprising given the huge disparity in information available, we get to learn a lot more about obscure and small populations in tropical regions and on islands. This compilation also shows clearly where gaps in knowledge exist, giving direction to future research. Another interesting feature of the book are the various trends of Peregrines across its range, especially in the light of the supposed importance of reintroductions in the past to help local populations recover. Wherever the use of persistent pesticides was culled or banned, depleted populations recovered, irrespective whether reintroductions were used (like in the USA and Germany) or not (like Australia, although pesticide-related declines here were more local than in the northern hemisphere, and Japan). And in tropical regions, Peregrines are scarce anyway, apparently an habitat to which this pointed-winged species is not adapted.

The research for this book is meticulous and up to date. Even information published in 2013 has been used, although the study of Baudat-Franceschi *et al.* (not Bandat-Franceschi) on *Falco peregrinus nesiotes* in New Caledonia is mentioned in the text (page 288) but not in the list of references (it was published in *Alauda* 81: 97-114). To have all this information available in a single book, and nicely produced at that, should be an incentive for raptorophiles and other fieldworkers to focus research on gaps in knowledge whenever the opportunity arises. (RGB)