Book Reviews

Authors: van der Jeugd, Henk, Loonen, Maarten J.J.E., and Bijlsma, Rob G.

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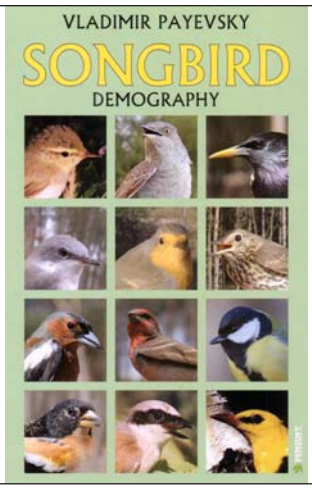
Payevsky V. 2009. Songbird demography: demographic structure, survival rates, and population dynamics of songbirds with particular reference to the birds of the Eastern Baltic. Pensoft, Sofia. ISBN 978-954-642-470-9. Hardcover, 228 pp., 48 colour plates. Euro 60



The study of the avifauna of the Courish Spit in the Kaliningrad region of Russia has a long tradition. Studies were already initiated when the area still belonged to Germany, and was known as the Prussian town Königsberg, in the beginning of the twentieth century. After 1945 the area became part of the Soviet Union, and now it forms the westernmost part of Russia, lying between Poland and Lithuania and geographically separated from the rest of the country. The ornithological studies were greatly intensified with the foundation of the Biological Station Rybachy in 1956 and the installation of so-called Rybachy traps in 1957. Rybachi-traps are large, funnel-like bird traps resembling Helgoland traps, but are larger, with 12 m high entrance gates. The standardised trapping of migratory and locally-breeding birds by the Biological Station Rybachy has resulted in c. 2.5 *million* ringed birds during half a century. In terms of the amount of data collected, the Courish Spit can easily match other famous European migration hotspots like Helgoland, Falsterbo and Ottenby. Vladimir A. Payevsky and his colleagues, most notably Victor Dolnik, Anatoly Shapoval and Leonid Sokolov, have used this vast data set to perform research into the age and sex distribution, survival, productivity and general population dynamics of song birds. They have published their findings in many scientific papers, although many are published in Russian and are not easily accessible to scientists in Western Europe. However, since 1998 the Biological Station Rybachy publishes the international, open-access journal *Avian Ecology and Behaviour*, in which many of the results stemming from the data collected at the Courish Spit are published.

The book Songbird Demography summarizes many of these results, as well as it attempts to review some of the key issues in songbird demography. The first chapter introduces the study site and the trapping and census methods used, including the impressively large Rybachy-traps. The colour plates at the end of the book illustrate this with pictures of the landscape at the Courish Spit, the traps in action, and the birds caught. Chapter two deals with the terminology and methodology in bird population studies. What is clear from this section is the disagreement in terminology and definitions of for example dispersal between western and Russian ornithological literature, as well as within Russian ornithological literature. What I found useful in this chapter were the warnings for some of the pitfalls that one has to be aware of when analysing ringing data. For example, Payevsky discusses here the so-called 'coastal effect', the fact that the proportion of first-year birds is disproportionately high among nocturnal migrants at coastal sites and not at all representative for the true age distribution among these migrants.

Chapter three deals with the analysis of survival rates and age and sex distribution from ringing data, reviewing existing literature and using data from the Courish Spit as an illustration. The analyses are sound, but mainly descriptive and do not offer very much new insights. The review of the literature is rather brief. In short, I found this chapter somewhat disappointing. Chapter four has more to offer. It presents a number of cases where demographic parameters are estimated from ringing data for Great Tit, Lesser Whitethroat, Barred Warbler, Willow Warbler, Chaffinch, Starling, Song Thrush, Siskin and Common Rosefinch, respectively. These exercises all rely on data from the Courish Spit, and serve as good examples of how ringing (and census) data can be used for the estimation of survival, age distribution and reproduction, and how these can be combined to examine what factors are most critical to the species dynamics. The only exception is the example of the Great Tit, in which no own data are analysed, but, instead, data from the literature is reviewed. One wonders then, why this species is treated so exhaustively in this book.

The fifth and final chapter of the book deals with what the author identifies as the key issues in the study of the mechanisms of population dynamics and with the population dynamics of African migrants. The first part deals with the various factors regulating bird populations, including the role of density-dependence. This part relies on a – rather brief – review of the literature. Data from the Courish Spit are analysed when it comes to the seasonal timing of mortality. Here, the author shows that there are significant differences in the distribution of recoveries among different species, but that on the whole, there is not one particular time of year where mortality peaks. The latter result may be true, but I can't help wondering whether the different species-specific distributions are not merely a consequence of the different species' geographical distribution at different times of the year, making them more or less prone to being detected and reported. Surprisingly, only four pages are devoted to the impact of global warming on the timing of migration and breeding. The main message is that correlations of spring temperature with breeding time and productivity vary across species and populations, but no attempt is made to explain this variation.

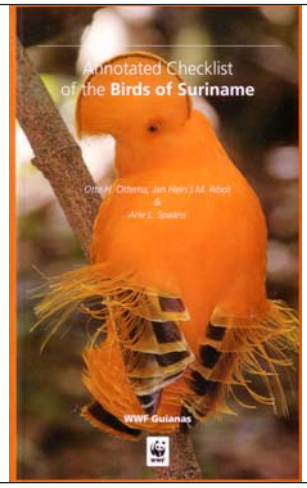
The part on population dynamics of African migrants starts with a good description of the numbers of birds that winter in different parts of Africa, and the general conditions that they meet there. The rest is devoted to a rather interesting comparative analysis of population trends of African migrant birds across ten major bird observatories across Europe. The main result of this analysis is that long-term trends vary between stations and time periods in most species, and that only a small number of species has significantly declined over a long time period of time across a larger area. Payevsky finds evidence that factors in the African wintering quarters, like prolonged periods of drought, seem to a large extent responsible for fluctuations in population trends, but that consistent long-term declines are mainly found in a small number of already rare species that probably mainly suffer from alterations in their breeding habitat. Interestingly, the recent alarming declines of some long-distant migrants reported by others are not manifested in this analysis, although this may partly be due to the fact that most time series end in the 1990s.

After reading this book, there is no doubt that the ringing efforts at the Courish Spit have yielded a data set of impressive volume and high quality. The presented analyses are mostly good illustrations of how ringing data can be used for the analyses of demographic parameters, and what pitfalls should be avoided. The analyses techniques used do not include sophisticated recent developments in the field of capture-recapture, but if their purpose is to teach basic demographic techniques they serve it well. The book also brings together a large amount of basic demographic data on many species of song birds, some of which have not been previously published. Personally, I would have liked to see many more analyses of the data from the Courish Spit in this book, addressing more timely issues, like, for example, timing of migration and breeding in relation to climate.

As a review of avian population dynamics, the book falls short of other works in the field, like for example Ian Newton's *Population Limitation in Birds* from 1998. As a presentation of an excellent data set that can be used for many more interesting analyses, beyond of what has been published in this book, and especially also in conjunction with similar data from other sites, it has certainly succeeded. I hope therefore that this book will inspire many collaborations with the staff of the Biological Station Rybachy, leading to exciting joint analyses of long time series of standardised ringing data from bird observatories across Europe.

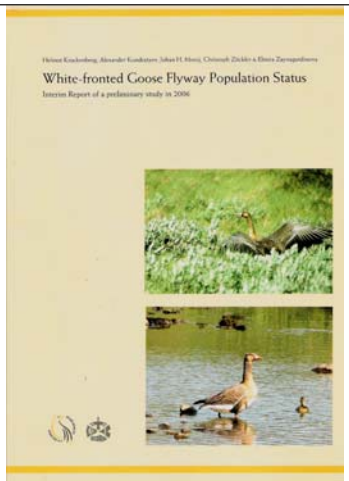
Henk van der Jeugd, Dutch Centre for Avian Migration and Demography, P.O. Box 40, 6666 ZG Heteren, The Netherlands (h.vanderjeugd@nioo.knaw.nl)

Ottema O.H., Ribot J.J.M. & Spaans A.L. 2009. Annotated checklist of the birds of Suriname. WWF Guianas, Paramaribo. Copies can be ordered at vriendenvanstinasu@planet.nl or by mail at Stinasu, Sylvalaan 12, 6816 RB Arnhem, The Netherlands. Euro 10 (including postage, The Netherlands) or Euro 15 (rest of the World).



After the Checklist of the birds of Aruba, Curaçao and Bonaire, South Caribbean, that appeared in Ardea (2009, issue 2) we are surprised by another checklist of the Mid-American region. Ottema *et al*. provide a Checklist on the birds of Suriname (excluding the disputed areas in the SE and SW), which compiles bird observations collected over the past 200 years. Although the Checklist looks modest (it comes in a handy 144-page pocketsize format), the information that it contains is impressive. The core part is a table listing all 739 species and subspecies occurring in Suriname with data on distribution, habitat choice, abundance and status. Appendices cover subjects like "hypothetical species" (occurrence in Suriname is not unlikely but has not been proven yet), new country records, rarities, information on occurrence of migrating birds, and endemic species.

Kruckenberg H., Kondratyev A., Mooij J.H., Zöckler C. & Zaynagutdinova E. 2008. White-fronted Goose Flyway population status. Interim Report of a preliminary study in 2006. Angewandte Feld-biologie Band II: 1-63. ISNN 1861-227X. Euro 18



This booklet is a compilation of the first year of an intensive study on the European White-fronted Goose by a German-Russian team. The core part describes results collected by a research team on Russian Kolguev, an island of 4850 square km located in the Barents Sea with an amazingly rich fauna. The study follows a flyway approach and assesses population status and recent trends in numbers. The White-fronted Goose is the most numerous arctic goose species in the Western Palaearctic with a total population of 1.36–1.75 million individuals. To arrive at a reasonable estimate, counts were supplemented with observations on neck-banded geese and birds carrying satellite transmitters. The local studies at a stopover site on the Olonets fields in Karelia Russia and on the breeding grounds on Kolguev provided ample opportunities to collect basic information needed to better understand the dynamics of the population. The island of Kolguev proved to have extremely high densities of breeding geese with 40–50 nests per square km. Apart for hosting 20–30% of the flyway population of White-fronted Goose, the island is used by large numbers of Barnacle Goose (30–50% of the population breeds on this island) and of Bean Goose (10–15%). Nesting conditions on the island seem to have a strong effect on the population performance of each of the goose species. In 2006, a low predation rate and favourable weather resulted in a successful breeding season. The study on Kolguev is continued to investigate further issues like timing of breeding, predation rates and interactions between goose species and other herbivores.

Maarten J.J.E. Loonen, Arctic Centre, University of Groningen, Aweg 30, 9718 CW Groningen, The Netherlands (m.j.j.e.loonen@rug.nl)

Tennekes H. 2009. The simple science of flight: from insects to jumbo jets. Revised and expanded edition. The MIT Press, Cambridge, Massachusetts. ISBN 978-0-262-51313-5. Paperback, XIV + 202 pp. Euro 19.99

Almost 20 years after the first edition saw the day of light, and several reprints (including a Dutch edition) in the intervening period, Henk Tennekes took the

chance to update on the rapidly expanding field of flight performance. Tennekes has been active in the fields of turbulence and multi-modal forecasting, hence his link with the flight performance of aircraft (and, by inference, of birds) and climate change (of which he is a sceptic). Clearly an enthusiast with first-hand experience in many aspects of flight, he sets an easy-to-follow course starting with the very basics of flight dynamics (lift, weight and speed; and yes indeed, Bernouilli had it wrong) exemplified by fruit fly and Airbus A380, and about everything and every creature in between. Flight data for migratory birds are given in an appendix, an open invitation to playing around with the figures (weight, wing area, wingspan, cruising speed and migration speed in level flapping flight). In a separate chapter, the impact of weather on flight is detailed. Not a minor factor, as in birds it makes the difference between life and death whilst migrating: tail wind or head wind, flying height, speed, the importance of losing weight during long-distance trips (reducing drag)… Although the physiological changes during long-distance flights are mentioned, the book is focused on the physical aspects of flight.

For the *homo ludens*, a chapter is included with flying playthings, ranging from paper airplanes to ultralights. Want to know why your paper plane tends to accelerate into a spiral dive? The answer is in the details, and that is precisely what this book is about: basic concepts of flight dynamics rule, but there is an infinite number of factors that interfere with optimal flight. The solutions are equally fascinating, both by human engineers as via evolution in birds, bats and insects. The many examples stress the fact that the devil is in the detail.

I thoroughly enjoyed reading this book. It did not change my concept of airplanes as being international buses moving from A to B, although I can now better appreciate the Boeing 747, the flying height of 10 km and the flight speed of 900 km/hour.

Rob G. Bijlsma, Doldersummerweg 1, 7983 LD Wapse, The Netherlands (rob.bijlsma@planet.nl)