

Book reviews

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A modern view on a small falcon: “The kestrel”, a monograph by David Costantini and Giacomo Dell’Omo

The common kestrel *Falco tinnunculus* is probably one of the most familiar birds of prey, even among non-ornithologists, who can easily spot these “small falcons” perching or hovering also in urban areas.

For ornithologists, the common kestrel is a model species for studies in behavioural ecology, ecophysiology and environmental toxicology and this book aims at summarizing the large body of knowledge accumulated on this species since the former reference Village’s textbook on the same species that dated back to 1990. In ten chapters, the authors present a state-of-the-art summary of the systematic, ecology and breeding biology of the species. Despite focusing mostly on the common kestrel, the book often refers to other species of the kestrel group, thus expanding the interest of this book.

Very interestingly, specific chapters are dedicated to topics that are often overlooked in the monographs dedicated to other species. For instance, chapter 5 focuses on colouration and provides a detailed description of its biochemical bases, the endogenous mechanisms that regulate the expression of colouration, and the implications of different colourations on mating behaviour and, ultimately, sexual selection. Chapter 7 reviews the studies on the ecological physiology and immunology conducted on this species, particularly on the links between immunity, energetics, hormones and antioxidants and shows how these studies are fundamentally important to

estimate the costs of underlying life-history trade-offs. Chapter 8 was a great surprise to read as it deals with environmental toxicology and shows the many studies conducted on kestrels that have revealed the negative impacts of legacy and emergent chemical pollutants on bird species. Finally, chapter 9 covers the movement ecology of this species illustrating the potentials of the most recent tracking technologies. This book has therefore a very broad interest and, despite it may appear technical in some parts, it shows very clearly how studies conducted on a bird species can contribute to our understanding of fundamental research questions, like sexual selection and evolution, or to the solution of more applied problems, like the impact of pollutants on wildlife.

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Reference

Costantini D. & Dell’Omo G., 2020. The kestrel: ecology, behaviour and conservation of an open-land predator. Cambridge University Press, Cambridge, UK 214 p. € 60.67.

Review of a Milestone: the European Breeding Bird Atlas 2

Through the effort of 120,000 fieldworkers covering 11 million km², the “European Breeding Bird Atlas 2” (EBBA2) represents one of the biggest citizen science biodiversity mapping project in Europe. The output of this ambitious projects includes 556 species accounts (plus 69 treated in the appendix) compiled by 348 different authors, 536 50x50 km maps showing abundance and 153 reporting breeding evidence, 222 10x10 km modelled maps, 568 illustrations of species by 46 artists and 446 change maps in a book of 968 pages.

Every species is portrayed with a hand-drawn illustration showing the bird and an element typical of the species’ habitat or behaviour: the steep cliffs on the open sea of the Eleonora’s Falcon *Falco eleonora*, the plastic-decorated nest of the Red Kite *Milvus milvus* or the dense forest background of the elusive Honey Buzzard *Pernis apivorus*.

After 30 years from the data collection that led to the publication of the first European Breeding Bird Atlas (EBBA1), this new version not only provides updated maps of species distribution and abundance, but offers three elements of novelty: an extended study area, 10x10 km maps derived from species distribution models for a subsample of species and 50x50 km change maps, comparing data on distribution between EBBA1 and EBBA2. The study area of the EBBA2 includes all areas of EBBA1, but a strong focus is set on filling the data gaps from Eastern Europe, which in the first version was largely based on expert knowledge. EBBA2 includes additionally the whole of Turkey, Cyprus, Canary Islands and the Azores. Modelled maps at a finer scale inform the reader where a certain species has the potential to occur based on standardly collected occurrence data and corresponding environmental characteristics. This represents a powerful tool to identify areas of conservation interest, and provides useful insights on combinations of environmental characteristics crucial for a given species’ occurrence. Change maps are for sure one of the most interesting features of this atlas. For the areas

well covered in both atlas periods, it was possible to overlap the same squares from EBBA1 and EBBA2 to produce maps informing about colonization and extinctions over the last thirty years. Many are the findings that catch the eye in this large-scale comparison, too many to fit in a short paragraph. Surely the overall 135 species that experienced losses in the distribution and the 187 occurring in new squares tell us something important, but even more interesting numbers arise when looking at those changes from a biogeographical point of view: the Arctic and Alpine regions are, in fact, the ones gaining the highest number of species, whereas Mediterranean regions are losing the most. The loss or gain of species per square is also analysed separately for habitat-specialists and it is striking to see the net loss of agricultural/grassland species across the continent in the last decades. EBBA2 is a monumental work that combines the effort from thousands of people collecting data and state-of-the-art statistical methodologies. The coordination team from the European Bird Census Council (EBCC) collaborated closely with nearly 50 national partners who were responsible for the collection and compilation of the data. Most data came from national atlas and monitoring schemes, as was the case in Italy. In East and Southeast Europe, data were mostly collected through dedicated fieldwork for EBBA2.

When thinking of the quantity and quality of the work behind EBBA2, the book price (90.00 €) is entirely justified. EBBA2 is a “*must have*” for ornithologists of every level, it is the most comprehensive description of the European avifauna of today and offers a dynamic perspective on the data presented. With change and modelled maps, in fact, EBBA2 invites the readers to consider the vast alterations that occurred in the past decades and simultaneously informs them on the urge to act in the future.

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Reference

Keller, V., Herrando, S., Voříšek, P., Franch, M., Kipson, M., Milanesi, P., Martí, D., Anton, M., Klvaňová, A., Kalyakin, M.V., Bauer, H.-G. & Foppen, R.P.B., 2020. European Breeding Bird Atlas 2: Distribution, Abundance and Change. European Bird Census Council & Lynx Edicions, Barcelona.

The book can be ordered directly from the publisher, Lynx Edicions: <https://www.lynxeds.com/product/european-breeding-bird-atlas-2-distribution-abundance-and-change/>