

Book review

The life of birds

Sandy Podulka, Ronald W. Rohrbaugh, Jr. & Rick Bonney (eds.): *Handbook of Bird Biology*. 2nd ed. – Cornell Lab of Ornithology & Princeton University Press 2004. ISBN: 978-0-938-02762-1; 1328 pp.

Thousands of identification guides on birds have been published all over the world in recent decades. It is much more difficult to find a comprehensive and up-to-date handbook on bird biology, full of details on every aspect of bird life. *Handbook of Bird Biology* is such a top-class publication. It fulfils many needs of a professional ornithologist but especially undergraduate students and bird-watchers. It is based on the Home Study Course organized by the Cornell Lab of Ornithology since 1972. As ornithology grows rapidly both as a science and recreational pastime, knowledge becomes old and unreliable more and more rapidly. This is the second version of the much used handbook.

The book has been divided into ten independent chapters, each with its own paging. The preface discusses the historical perspective of the relationships between birds and humans. It includes presentations on various ways how birds have been used, either as food, for decoration or for purposes related to literature, culture and religion. A short summary on the evolution of North American ornithology is also included. Chapter one gives a thorough introduction to the world of birds, from avian anatomy and evolution to distribution and classification. The orders and families of all the birds living in the world at present are listed as an appendix. This classification, however, is far from final due to ongoing research on systematics by modern genetic methods.

The second chapter gives thorough introduction to bird watching, beginning by identification and practical skills in the field, and coming to recording observations and counting birds. A side-

bar gives hints, e.g. on how to attract birds to your garden. Chapter three describes feathers, colours and other external features of a bird. It includes also discussion on the role of colour and pattern in avian social behaviour. The fourth chapter presents modern knowledge on the anatomy and physiology of birds. It gives detailed description of avian skeletal, muscular, nervous, circulatory and endocrine systems, the senses of birds, as well as the respiratory, digestive and urogenital systems. The senses and metabolism of birds are also reviewed. Major anatomical differences between birds and mammals are also presented.

The next chapter discusses one of the most eminent properties of birds: flight and migration. It includes also a short summary on orientation and navigation. A separate text describes the evolution of birds and especially avian flight. Understanding bird behaviour is the theme of chapter six. A useful base text indicates both the proximate and ultimate causes of bird behaviour, including a comparison of instinct and learning, and the use of Darwinian evolutionary theory on explaining how and why birds behave like they do. The majority of the chapter is used to describe behavioural traits connected to reproduction.

Birds are very vocal compared to other vertebrate groups. The seventh chapter summarizes what is known on avian sounds, their use and control. As singing is a very prominent trait in reproduction, the functions of song are treated in detail. Birds are the only class of vertebrates which reproduce only by external eggs. The next chapter is a thorough summary of what is known on nests, eggs and young, across all fields of breeding biology of birds. Types of nests, structure and development of eggs, and properties of altricial and precocial young, for example, are well described and compared.

Population ecology of birds, or the relationships between individuals, populations and communities, is the topic of the ninth chapter. The text on birds as individuals, for example, reviews habi-

tat selection, thermoregulation, and foraging ecology, as well as counterbalancing life history strategies. After the presentation of bird populations and communities, birds are described as components of ecosystems. Last but not least, the tenth chapter is a diverse outlook on various aspects of bird conservation, starting with historical context. It presents both conservation problems, and the ecology of extinction, and solutions to these problems. Positive examples, like the Whooping Crane, California Condor and Peregrine Falcon, are described. There is also a discussion on why birds should be protected, and what each of us can do.

The book is well balanced and full of details on all topics in bird biology. However, for a book this broad, it is natural that something must have been left out. I would have liked to see, for example, more on the methodological aspects on every topic, especially as the book is innovative and meant also to help students in ornithology find a topic for further research. Further, the book could expand on historical aspects of ornithology and monitoring of birds, and the most valuable way to “use” them for human benefit. Examples are drawn from all parts of the world, depending on which groups and species provide the best ones. As the study course, which forms the base of the book, has been planned for North American students, a great majority of more detailed examples

come from that continent. There are, nevertheless, a lot of familiar birds for us Europeans too! The style of the text is a little variable, because each chapter has been written by various experts. In general, it is easily understandable, clear and concise, and it suits to all kind of readers interested in birds. The book includes hundreds of black-and-white photographs and helpful diagrams. It is sad that there are no colour photographs, as colours are so prominent in the life of birds.

Sources of the information summarised in the various chapters have been given in variable ways. Although the reference list includes some 800 articles and books, in a versatile book like this there should have been thousands. For some detailed information, reference to its source is included, but a great number of aspects are not properly referenced. Some chapters end up with a short list of suggested readings (many including books of secondary importance), others not. Editors should have standardized this and other points more carefully. The indexing could have been done in a more systematic and coherent way, and the list of species should have included a page number to show in which context they have been mentioned.

To sum up, Handbook of Bird Biology is a very thorough, detailed and innovative summary on the life of birds. It is a good first source of reference to answer all kinds of general questions on birds.

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