

Book Review

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Title: THE BIOLOGY OF MOULT IN BIRDS – 306 pp

Authors: Lukas Jenni and Raffael Winkler

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Lukas Jenni & Raffael Winkler

This book, published by Helm (Bloomsbury Publishing Plc), and written by Lukas Jenni and Raffael Winkler, covers a very important but often neglected feature in birds – feather moult. The authors, Lukas Jenni and Raffael Winkler, who have vast experience of field and museum studies, had earlier written the seminal 'Moult and ageing in European Passerines' and this book is complementary to their earlier work.

The format of the book is a preface, followed by five chapters covering the various aspects of moult in birds, and finally, a detailed list of references. The five main chapters of the book are 1) functions of plumage, 2) plumage maintenance and the need for plumage renewal, 3) the processes of moult: feather growth, physiology, energetics and control of moult, 4) the effect of environmental conditions during moult on plumage quality and their consequences and 5) fitting moult into the annual cycle: moult strategies. The list of references is comprehensive and an index is provided at the end. The authors do not provide a systematic review of moult in every group of birds but rather, provide an overall picture of moult in birds. The species names are as per the IOC list.

The authors state in the preface that moult is a neglected field of study and this book provides a first review on the biology, physiology and ecology of moult. The authors inform that they have tried to provide an overview about the phenomenon and consequences of moult in birds – the importance and function of moult and how it affects other aspects of a bird's life. The main part of the book is structured in five different chapters so that the different aspects of moult are properly explained.

Each chapter has different subheadings under which the listed topic is discussed in detail, often accompanied with sketches, photographs and graphs where required, and a summary is provided at the end of each topic. There are many photographs and illustrations in the book, explaining in detail the different topics covered. The anatomy of feathers is explained in great detail, with photos and illustrations, including with electron microscope photographs. Interesting facts are presented and explained, including how water is retained in specialized ventral body-feathers in sandgrouses and how feathers of some species are toxic. A few interesting topics covered over the five chapters are changes in plumage with age, size and structure of non-ornamental and ornamental feathers, moult strategies, and moult and migration. Specific examples are often given, with photos, to explain various details: for example, photos of Ruff are given to show plumage variations, Rock Ptarmigan to show plumage in various seasons, Curlew Sandpiper and Northern Wheatear to show differences in breeding and non-breeding plumages.

Since moult is not well studied, the authors have highlighted the inconsistencies in data, contradictory findings, knowledge gaps and pointers for future studies. A very interesting point presented by the authors is that they could not find a single study on how the Indian Peafowl produces its train (tail), which is one of the showpieces of sexually selected traits – and the factors affecting it. Surely, this is one subject in which Indian ornithologists can conduct in-depth studies and contribute to the study of moult in this species. There are many other features of moult in various species of birds in India which can be studied by Indian ornithologists and bird watchers.

This book fills a very important gap in our knowledge of moult. Though further studies are required to know the different aspects of moult and its effect on birds, this book provides the impetus required for future studies. This book does not cover moult in nestlings and development of juvenile plumage. That is beyond the scope of this work. But, almost all aspects of moult in adults are covered.

Though study of moult is not a topic of interest for most amateur as well as serious bird watchers in India, this book provides information, in simple language and with examples, photos, graphs and illustrations, for those interested. This subject may seem to be esoteric, but, with this book, a comprehensive overview is now available. This book will be available in the near future with online retailers (like Amazon) in India and is also sold by the publishers on their website in hardcopy as well as in PDF at: <https://www.bloomsbury.com/au/the-biology-of-moult-in-birds-9781472977205/>. This book will be an important addition to a birders library.

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