

understand why no attempt was made to measure insect abundance. This is all the more surprising given that earlier work had shown that Sage Grouse chick survival rates increase markedly with the availability of caterpillars (Lepidoptera), predation being only the main proximate cause of mortality (Gregg & Crawford (2009) *Journal of Wildlife Management* 73: 904–913).

The only forest grouse covered is the Hazel Grouse *Tetrastes bonasia*, and this interesting chapter, one of only two focusing on work outside North America, reports studies in southeastern France. Natal dispersal has been quantified in eight species of grouse and because these studies have shown overwhelmingly that males tend to be more philopatric than females, this has often been assumed to be the norm. However, the reverse was found to be the case in this first such study of Hazel Grouse to an extent that it was considered to limit the species' ability to colonize new habitats. Yet in the Grey Partridge *Perdix perdix*, the same female philopatry has in the past permitted rapid expansions of range. Some Galliformes show female philopatry whilst some show the reverse, but the causes of this and its relevance to dispersion remain unclear.

Section three consists of seven chapters dealing with Population Biology, including important new work on the re-nesting ability of Willow Ptarmigan *Lagopus lagopus* and on the survival of Greater Prairie Chicken broods as determined by radiotracking. In this last study, 70% of chick losses were found to be the result of predation exacerbated by rain but, once again, there was no measuring of insect abundance. Studies of Rock Ptarmigan *Lagopus muta* in the Alps showed that raptors were responsible for 40–85% of predation, predators were the main cause of nest failure and that 'predator control could be justified in situations where human activities have led to artificially high predator densities'.

Of the five chapters on Conservation and Management in Section four, the last three deal with hunting. With the most obvious exception of Red Grouse *Lagopus lagopus scoticus* in northern England, many grouse species are either scarce or declining in numbers. This leads to pressure to stop hunting; a measure which would be beneficial to grouse where hunting is additive to normal mortality. In the first of the three chapters it was found that hunting of Greater Sage Grouse depressed the numbers of males on spring leks and it was concluded from this that hunting mortality was 'additive'. However, spring stocks depressed by hunting are not an indication of unsustainable hunting because numbers can recover by the following hunting season through lower density-dependent losses during the breeding season. The last chapter, about Greater Prairie-Chickens, compares two population models: one with compensatory mortality and the other with 'additive mortality'. The model with compensatory mortality,

including higher breeding success with hunting, gave a higher-fidelity representation of grouse densities.

The book is full of the detail that most grouse biologists will need on their book-shelves but its wider relevance awaits a greater integration of old-fashioned fieldcraft, the latest technologies, experiments and practical analyses.

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ŠTĀSTNÝ, K. & HUDEC, K. (eds) **Fauna ČR. Ptáci. Volume 3, Parts I and II** (in Czech, with German summary). 1192 pages, 668 figures (maps, graphs, black-and-white photographs, line drawings). Prague: Academia, 2011. Hardback, 725Kč, ISBN 978-80-200-1834-2. Website: <http://www.academia.cz>.

The original volumes of the *Fauna ČSSR* devoted to 'Ptáci' (Aves) of the entire former Czechoslovakia were published in 1972–83 under the editorship of K. Hudec and W. Černý (1972, 1977) and K. Hudec (1983). However, masses of data on virtually all aspects of avian biology have been collected in the Czech Republic since then and work thus began on an updated and revised edition. Volume 1 (Gaviiformes to Anseriformes), now referring with its amended title *Fauna ČR a SR Ptáci* to the two independent countries, appeared in 1994. Both the two-part Volume 2 (reviewed in *Ibis* 148: 379), which treated Accipitriformes [Falconiformes] to Pici-formes (Hudec & Štástný 2005), and the final Volume 3, covering all species of Passeriformes recorded up to 2007, describe the birds of the Czech Republic only.

The larger information content of the new edition is obvious already from its length – passerines were allotted c. 200 more pages than in the first edition almost 30 years ago. Instead of the original 21 authors, the revised edition was compiled and rewritten by 25 Czech ornithologists (the unfortunate omission of three of them from the title page is noted on an Errata slip) and additional original data were provided by c. 50 other researchers. The result of their efforts is that the new version of the *Fauna* Volume 3 contains c. 70% new and/or revised text. However, it was not always possible to differentiate between the CR and Slovakia in the data (older sources). In such cases, this is explicitly indicated in the text and figures. Still, even such pooled data sets contain c. 90% of data from the CR, so that the resulting geographical bias is relatively small.

Several new features greatly enhance the usefulness of this book not only for Czech ornithologists and birdwatchers but also for those from abroad. First, the new edition includes original, previously unpublished, data (in the form of bar graphs) on circannual and circadian singing activity of songbirds. Secondly, phenological data on arrivals from, and departures to, wintering grounds are

completely new, covering the period 1994–2007 and including over 50 000 data points collected by members of the Czech Society for Ornithology. Both kinds of data are essential for the planning of bird censuses (e.g. in order not to miss particular species because of their divergent singing activity) and basic or applied research. Thirdly, distribution maps for the CR are based on new distributional data from the 2001–2003 national census, with additional data up to 2007. Fourthly, migration data were fully upgraded to 2002 (in some species to 2007).

Other changes include the removal of the original colour plates showing adult plumages of Czech passerines and their eggs. Although the exclusion of the former is appropriate (many local and translated foreign field guides are available in the CR), omitting the egg plates decreases the potential value of this monograph, as there is no other Czech publication that contains the important visual information on egg phenotypes of birds breeding in the country.

Although the new edition of this work is a great step forward compared with the original volumes, there is still room for improvement. For example, I note inconsistency in the level of detail given in habitat descriptions of different species: such information for tits (Paridae) is virtually the same as in the first edition and, more importantly, on average three times shorter than the thoroughly revised and much more detailed descriptions for warblers of the genus *Sylvia*. Also, in many species, only circannual or only circadian singing activity is shown. In species where both are presented, circannual activity was often recorded in a different locality from that for circadian activity and, as assumed from locality information, also from different altitudes and perhaps habitats. This limits the usefulness of the data for comparative analyses and fieldwork. I would still emphasize that even the singing data as presented are important because such detailed information is typically missing from such standard reference works as BWP or *Handbuch der Vögel Mitteleuropas*.

A new (third) updated edition of Volume 1 is now in preparation. To make it more user-friendly for ornithologists outside the Czech Republic, this new edition is to feature English summaries and figure captions. In the meantime, the second edition of *Fauna ČR Ptáci* will remain the major authoritative source of information for both amateur and professional (Czech) ornithologists and a valuable source of data for meta-analyses.

Tomáš Grim

URFI, A.J. **The Painted Stork: Ecology and Conservation.** xvii + 163 pages, black-and-white and colour figures, tables. New York: Springer Verlag, 2011. Hardback, €99.95, £90.00, ISBN 978-1-4419-8467-8. Contact email (author): ajurfi@rediffmail.com; website: <http://www.springer.com>.

The Painted Stork *Mycteria leucocephala* is found in South and Southeast Asia. After studying the species for over 20 years, A. J. Urfi has shared what may be seen as a labour of love – his and J. H. Desai's observations, mainly at the Delhi Zoo and throughout India. These are remarkable and overdue.

What we have is a book written not just for full professionals but also for the young who are interested in birds and want to learn about basic natural history, for those interested in Painted Storks, in waterbirds more generally, and in Indian ornithology. This is a very complete summary, but for details readers can go to the original articles (each of the eight chapters concludes with a list of references).

Urfi describes in detail the biology of the Painted Stork in India. I studied the similar and closely related American Wood Stork *Mycteria americana*, for almost as many years, half a world apart. We both investigated all aspects, Urfi concentrating on coloniality and breeding, while my main focus was on breeding behaviour and foraging ecology. I am amazed at the similarities of our findings.

Urfi writes from his long-term Indian perspective and sometimes leaves out the links in his logic. When I put my own logic in, I come to the same conclusions, almost every one. When he lists questions for future investigation, mine are similar.

He begins by introducing the Painted Stork as a member of the Ciconiidae, and its relationship among the 19 species of that family. A later chapter deals with feeding ecology. Whereas familiar herons (Ardeidae) are primarily visual feeders, storks feed visually but more often by feel (tactolocation). This allows them to forage efficiently in murky water and at night. It also means that they can do so in groups, whereas many herons, while appearing to feed together, maintain small territories and feed alone.

Much of the book is devoted to breeding and coloniality. The Storks breed on islands in trees over water, which affords them protection from land predators. It is impossible to study birds in these areas without causing severe disturbance. Urfi has avoided this by using photographic measurements (videography), correlated with museum measurements; he has examined sexual size dimorphism and demonstrated that these birds mate assortatively by size.

Breeding areas have been severely restricted by habitat changes over the centuries, and the available colony locations are highly dependent on suitable habitats supported by local people: at the Delhi Zoo and in local communities throughout India. This relationship is well described.

The monsoon is a wet/dry season weather phenomenon that affects mostly South Asia, but also extends through other (eastern) parts of the continent. Whether it be under the monsoons, the Florida wet/dry seasons and even in Venezuela, waterbirds breed at the end of the wet season when the drying of their typical habitat