

Book reviews

BIRDS OF THE INDONESIAN ARCHIPELAGO. GREATER SUNDAS AND WALLACEA

By J. A. Eaton, B. van Balen, N. W. Brickle and F. E. Rheindt
2016. Published by Lynx Edicions, Barcelona. 496 pp.
Hardback, € 65 (~AU\$95), ISBN 9788494189265

The team of four that put this guide together bring skills from academia and bird-watching. By bird-watching I mean those who enthusiastically follow birds of the region. Their academic credentials include two co-editors of *Kukila* an avian journal dedicated to Indonesian birds (it would not accept my paper on Hong Kong birds) and a professor at the National University of Singapore who works in avian phylogenetics and conservation. They all work within the region and with the region's birds and have done so for a long time. Their diverse skills and experience within the region no doubt help to bring the book together while remaining focused on the region's needs.

The book's aim is simply stated as bringing together in one place the birds of a vast region with many small islands (~17 000). An area that links Asia with Papua New Guinea and Australia with avian invasions from both sides, yet it boasts 601 endemic species. The book itself is essentially a field guide and as usual it will not fit into my pocket; my copy measuring ~24 cm × 17 cm.

This field guide like other field guides is structured with an introduction that ends with explanatory notes and figures followed by the species accounts, which are the core and bulk of the book. It is concluded with a comparatively short bibliography and an index. The text in the species accounts is brief in style without wasting words and detailed in information. The species accounts deal with 1147 species over its 446 pages, but half the pages are for the 2500 plus figures and maps, giving on average about five species accounts per text-page. Species accounts are on the left pages while coloured maps and the colour illustrations of the birds are on the right. There are many more illustrations than there are species with the nuances of different coloured morphs, sexually dimorphic characteristics, juvenile and other age-related plumage variations, seasonal plumages etc. illustrated in the same detail and typically the same scale as the main figure. The maps are colour coded green, yellow and dark blue to highlight in the same order; residency, breeding visitation or migrancy. Small black arrows are used (inconsistently) to highlight a taxon's presence on small islands. Given there are ~17 000 islands they could not be used consistently. Not all the birds are facing left, although many are. Facing both right and left helps separate birds and relax the reader's eye.

There is also an introductory section (discussed below), which was written by three of the authors. The index seems too severe. I looked up Magpie-robin without success, first under M and then under R for robin. I finally found it under O for Oriental Magpie-robin, although if I had looked up *Copsychus saularis* I would have found it immediately. Only bird names are given in the index—both common and scientific.

Given that this book is written in English its first audience must be regarded as English speaking Indonesians and secondarily as English speaking bird enthusiasts likely to visit the region occasionally or regularly. No doubt it will also be used by researchers.

The strength of this book lies in the current understanding of the region's biogeography and geology. The complex nature of the processes that shaped the region include: invasions from Asia and the Australo-Papuan region; the convergence of different tectonic plates carrying vastly different avifauna; sea level fluctuations from glacial minima to maxima, which interact with oceanic depths (or shallows) to form land bridges or not; and the higher mountains of volcanic islands, which harbour the greatest endemism. This complex array of geological attributes, which keeps moving and changing has led to the patterns that are well described in the introduction by Frank Rheindt. This part of the introduction is a must read in order to begin to understand the distribution of the birds. Given that the authors understand the biogeography, it follows that they follow this, rather than political boundaries, when delimiting taxa. Within the introduction there is a commendable section on the region's history, a short section on conservation (which would have benefitted from including notes on ecology); and another section, by Frank Rheindt, outlining the taxonomy and systematics followed in the book. He advises that they have 'largely' followed a current work by *Jarvis et al. (2014)*, however and alas, they have been inconsistent in following genus and English names to avoid overwhelming their readers with too much change.

Given the objective of this book was to make all the avian taxa of the Indonesia archipelago easily accessible to the all the local users, the inclusion of Brunei, East Timor, Sarawak and Sabah considerably aid this goal. Had it included West Papua and Papua it would have been perhaps too thick. Its most obvious educational and research functions lie in helping to identify what bird you are looking at: a problem I have with tailorbirds and warblers. Quickly delimiting by the area you are in speeds up the identification; the plumage characteristics then help separate the precise species. There are some notes on subspecies too. No doubt the intended audience, those on the ground in Indonesia and those standing at museum drawers, will benefit the most from this book.

The text is well organised in standard field-guide fashion and benefits from bold and capitalised red letters that act as abbreviations for the sections within each of the species accounts. Additional badge-type coloured letters proclaim endemic, vagrant and introduced where applicable. Presumably the level of research that has gone into this volume is considerable, but I could not be sure of this with great confidence without in text referencing. A short bibliography, five and a half pages, is given before the index. However, I cannot tell if and where these references were used and surely many more were needed for a book of this magnitude.

On the whole this book will sate the desires of the many who have awaited such a treatment of this region. Some will not like the way the book handles species nomenclature—others will. Again on the whole, I imagine that it will be a very long time before it is surpassed or superseded. I recommend this book to

those travelling in Indonesia (except West Papua and Papua) and to those working with the avifauna of the region.

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BIG, BOLD AND BLUE: LESSONS FROM AUSTRALIA'S MARINE PROTECTED AREAS

By J. Fitzsimmons and G. Wescott (editors)

2016. Published by CSIRO Publishing, Melbourne, Australia. 432 pp.

Paperback, AU\$89.95, ISBN 9781486301942

Marine Protected Areas (MPAs) collectively are a widely-used and valuable tool in the management and conservation of coastal and marine ecosystems across the globe. In response to Aichi Target 11 set under the Convention of Biological Conservation (CBD) in 2010, nations will be striving to achieve 10% global coverage of MPAs by 2020 (CBD 2010).

Big, Bold and Blue documents and shares Australia's experience in recent decades of establishing and managing MPAs. It aims to:

'seek out common lessons, both positive and negative, acquired from the Australian experience during the recent rapid expansion of MPAs, particularly over the past 15 years (...) [and] aid and inform other nations how they may progress their own specific and distinctive attempts to meet internationally agreed targets set under CBD for marine conservation, especially Aichi Target 11' (p.4),

and it does this extremely well.

The book is divided into five sections:

1. Setting the international and national scene;
2. Australia's Marine Protected Area Systems;
3. Key aspects of Australian MPAs: legislation, science, economic advantages;
4. Differing perspectives on Australian MPAs; and
5. Lessons from the expansion of Australia's MPA networks: a synthesis.

Part one sets the overall scene, providing the reader with a general overview of MPAs in Australia and how this system has evolved and developed over time. It also puts Australia's MPAs in

context with other countries across the globe, highlighting Australia as a leading entity in MPA establishment in the past two decades. Aichi Target 11 is described along with what Australia must achieve in order to meet its goals. Part two takes the reader through the current status of MPAs in Australian Commonwealth waters, each individual state/territory and Antarctic and sub-Antarctic waters. Each region has a dedicated chapter, which provides a comprehensive overview of the various elements of MPAs and their management, including the history, development and establishment of its MPAs along with the current status in terms of size, zonation, and characteristics. An evaluation as to whether the regional network is comprehensive, adequate and representative of marine ecosystems is provided and current management policies and regulations are described. Each chapter outlines successes, challenges and any outstanding achievements or alternative approaches to design, establishment or management in the region along with future directions of MPA networks.

The key aspects of Australia's MPAs are outlined in part three, with a focus on legislation and the scientific and economic value of MPAs to both government and the general public. This section also highlights the gaps in the 'tapestry of protection' and priorities for the future development of the nation's MPA network. Part four offers differing perspectives on Australia's MPAs, from the involvement of indigenous people in MPA management and usage, to the attitude of the general public towards MPAs and the benefits to recreational and commercial fishers. The story of Australia's Oceans Policy is told and case studies of campaigns led by conservation-orientated NGOs are presented including overviews and lessons for future campaigns. Part five concludes the book with a synthesis of the important lessons learned from the recent expansion of Australia's MPA systems, the 'take-home messages' of the book and includes suggestions for future directions and improvements to ensure more effective establishment and management measures.

On the whole, *Big, Bold and Blue* compiles a vast range of information into a well written, interesting and informative text which provides a comprehensive picture of Australia's MPA systems. Thought-provoking forewords from Australian author and conservation advocate Tim Winton, and Inger Anderson and

Dan Laffoley of the IUCN, effectively set the scene for the book. The chapters are well structured, to create a logical flow of information and provide excellent coverage of the various elements of Australia's MPA systems, while objectively presenting the strengths, weaknesses and future challenges for MPAs in Australia.

The editors recognise a lack of coverage of certain aspects including enforcement, adequacy of management and the need for considering ecological connectivity and climate change. More information on these elements would have proved valuable additions to the book and produced a more well-rounded overview of the Australian MPA system.

The physical presentation is aesthetically pleasing with intermittent photographs, figures and tables to illustrate points and effectively compile facts or comparisons. With a writing style that is suitable for anyone with a general interest in MPAs through

to accomplished academics in this particular field, *Big, Bold and Blue* is a must read for anyone seeking a thorough understanding and evaluation of MPAs in Australia. This book will be a valuable tool for nations working towards more effective management and conservation of their marine and coastal environments.

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INDICATORS AND SURROGATES OF BIODIVERSITY AND ENVIRONMENTAL CHANGE

By D. Lindenmayer, P. Barton and J. Pierson (Eds)
2015. Published by CSIRO Publishing, Melbourne, Australia.
203 pp.
Paperback, AU\$79.95, ISBN 9781486304097

The book focuses on the need to use surrogates (defined as 'a proxy for something else') to improve our understanding of biodiversity and environmental change, because direct measures of all relevant components of the ecosystems are logistically, and financially, impracticable. The book sets itself up with the main aim to highlight how surrogates are applied in different environmental sciences, summarising key learnings and overlaps that may be useful to improve future applications, and it does, indeed, a good job of this.

The editors also carefully highlight existing conflicts in terminology. This includes the use of the terms 'surrogate' and 'indicator' (often indifferently), and the lack of clarity in the definition of 'what is the baseline reference for biodiversity'. Indeed, half way through the book, a wonderful example assists visualising the latter problem: how should the baseline reference for biodiversity for a temporary pond within a verdant forest change as the area is urbanised? The editors then suggest that, for clarity, the question should be re-framed as 'what is acceptable in view of induced changes?'

From the description of the developments made in the different disciplines, it is clear that natural and human-induced disturbances can affect surrogacy, and that careful choice of surrogates is therefore needed during planning of monitoring programs. Moreover, the book highlights that for improved results with reduced uncertainty, a set of complementary and independent surrogates should be used. The breadth of studies included in the book make reference

to a range of ways to obtain surrogacy information, and cover topics such as predictive modelling, relative importance of abiotic surrogates, or the use of complex indices following a DPSIR approach (Driver – Pressure – State – Impact – Response).

The structure of the book includes eight sections detailed in 19 concise chapters, of which four are introductory chapters and one is the concluding chapter. Each of the remaining 14 chapters covers different aspects of the use of surrogates and indicators in different disciplines, from terrestrial and atmospheric to medical sciences and policy and management. The framework for each short chapter is consistent throughout and includes a brief introduction, a summary of 10 lessons learned (5 knowns and 5 unknowns), and a brief conclusion. Each chapter is stand-alone and includes a full list of references. These features make the book useful for a broad audience including those interested only in the specific disciplines, as well as those with cross-disciplinary interests, and comprising students and managers alike.

The authors from each chapter were pooled from the eminent range of researchers working on surrogacy within each discipline, across Australia, USA, Europe, and Canada. Totalling 27 authors, the writing style is of course varied. However, the regular structure set out by the editors provided an easy way to identify and understand content laid out in the different chapters. Also, together with the consistent structure, the differences in writing styles actually assists the reading with some authors being very descriptive, others making good use of flow charts and schemes, and others just presenting a clear and accessible narrative. This leads to the main strength of the book: it presents a nice and easy to read summary of the use of surrogates across disciplines highlighting the overlap and important gaps across fields while also providing a set of relevant references for those interested in knowing more. The editors also did a great job summarising the main common themes across disciplines which included the needs to: identify well developed objectives and goals for surrogacy use, guide the identification of appropriate surrogates, perform rigorous assessment and testing, and

translate the existing body of science to management and decision making.

In terms of weaknesses, I would say that despite the inclusion of suggestions for improving assessments of surrogacy use, no best method or guidelines were suggested to fulfil the main goal of such assessments: exchange knowledge with policy makers and stakeholders. In this context, I felt that the book is lacking a final chapter presenting new perspectives on ‘where to from now?’ Such a final chapter could aim to present guidelines for future studies to improve the utility and application of surrogates in the environmental sciences.

However, the book does clearly highlight that the use of surrogates is more developed in some fields in terms of accuracy and rigour (e.g. atmospheric pollution and aquatic ecosystems), as well as areas outside of the environmental sciences (e.g. clinical medicine and pharmacology). Therefore, a potential way forward could be by looking into the ‘best practices’ presented for each of the fields where the use of surrogates is more advanced, and trying to adapt them to the environmental sciences, as implicitly suggested at the end of the book. For those particularly interested in guidelines, I would recommend reading some of the recent peer-reviewed papers published by the editors on the subject, which include ‘A new framework for selecting environmental surrogates’ (Lindenmayer *et al.* 2015)

and ‘Two roles for ecological surrogacy: indicator surrogates and management surrogates’ (Hunter *et al.* 2016).

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