Boom & Bust: Bird Stories for a Dry Country

Robin, L., Heinsohn, R. and Joseph, L. (eds). 2009. CSIRO Publishing, Collingwood. 312 pp. Hardback
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As the subtitle says, this is a book of bird stories. The overall theme examines the population dynamics and evolution of some Australian inland birds in 12 separate essays, each by a different author or group of authors. It is apparent that the dates of preparation of these chapters cover an extended time period, one prepared by an author who died in 2001, and there is little attempt to integrate the stories. Each of the essays is well referenced and written by a respected authority on the bird, birds or topic that are the subject of the essay. In this way the book is authoritative, but it is also innovative, because it is clear that peer review has not been applied, or if applied then applied gently, because the authors have been allowed to speculate on the interpretations of the data they present. Modern journal editors and peer reviewers do their best to eliminate such speculation and yet it is from the presentation of such untested ideas that inquiry begins and science advances. The editors are to be applauded for taking this approach.

The chapters deal with a number of different species of birds, *Genyornis*, Emu, Australian Pelican, Brolga, Black-tailed Native-hen, Grey Teal, Night Parrot, Channel-billed Cuckoo, Eastern Koel, White-winged Chough, woodswallows and Zebra Finch. Some of these species are renowned for their great fluctuations in abundance, others are fitted into the "boom and bust" theme in unexpected ways. Some, like the Brolga, Eastern Koel and Channel-billed Cuckoo as predictors of weather conditions, some like *Genyornis* and the woodswallows as witnesses to climatic change on a geological time scale and the Night Parrot as one whose survival under the pressures of disturbance by European settlers and the harsh arid environment, we simply do not understand. Throughout the book the impact of human disturbance is considered alongside climatic factors in controlling the abundance and distribution of the birds. This gives the book an added dimension that might have been absent if the contributions of historian and anthropologist had been omitted. It is a truly multidisciplinary work.

Much is made of the erratic nature of rainfall in inland Australia and of the need for organisms that live in the inland to adapt to the large fluctuations that are apparent in the quantity and timing of this element of the climate. In particular the ability of birds to breed at any time of the year when it rains is emphasized. Only in three places in the text could I find a suggestion that some organisms exploit such regularity as there is in the arid zone to survive and maintain themselves. Both day-length and temperature have regular annual cycles, cycles to which organisms are known to be sensitive. Birds such as the Rufous Whistler, Grey Shrike-thrush, Variegated Fairy-wren and Singing Honeyeater, maintain populations in the mesic as well as arid zones (Blakers *et al*. 1984). It can be argued that such birds are better adapted to Australian conditions than those discussed in this book. How do they survive? As long ago as 1961, Ralph Slatyer (Slatyer 1961) showed that falls of rain as small as 15mm led to run-off and the concentration of water in small creeks around Alice Springs. It is in the creeks that ninety percent of the productivity of the arid zone occurs and it is in these places that the wide-ranging species of birds are found. Temperatures are high and fairly even from November to March (summer), fall in April and are low and fairly even from May to August (winter), rising again in September and October. Falls of rain exceeding 15 mm occur in ninety percent of the summers and winters, allowing the plants and animals in the run-on sites (creeks and watercourses) a regularity of the effects of rainfall that escapes notice in this collection of stories.

Again, the drop in temperature that accompanies every fall of rain, substantial after summer storms, is not mentioned as a possible trigger for the initiation of breeding, yet animals, including birds, are very sensitive to changes in temperature. I know of no experiment on the effect of rainfall on breeding in desert birds that controlled for temperature change.

If I have exceeded the bounds of tolerance and digression allowed to a reviewer, it is because I think that this book will be widely read, but will give an unbalanced concept of the birds of arid Australia. Those that show "boom and bust" population dynamics are a spectacular and fascinating part of the avian community of the Australian arid zone, but they are not the whole story. The essays in this book are of great value as reviews of the biology of the species with which they deal, and as an inspiration to others to take up some of the questions the authors' speculations generate. At the same time it will be unfortunate if biologists outside Australia, or those within Australia who have no experience of the arid zone, are left with the impression that all arid zone birds live in this way.

The referencing systems of both the humanities (endnotes) and the sciences (reference section at the end) are used in this book, another illustration of the broad-minded approach of the editors. Much of the early literature is identified, a relief to those of us who are dismayed by the abundance of papers that cite only "on-line" literature. Nevertheless some significant and recent publications have escaped the notice of the authors, to the detriment of the reviews. This is probably an inevitable consequence of the

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length of time over which the articles were prepared. It is a minor defect compared with the value of the publication as a whole and I have no hesitation in recommending it to critical readers as a very worthwhile publication.

REFERENCE

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Australian Saltmarsh Ecology

Neil Saintilan (ed), 2009.
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AUSTRALIA, including its territorial islands, is surrounded by almost 60 000 km of coastline (Geoscience Australia, http://www.ga.gov.au/education/) and, according to Saintilan, coastal saltmarshes occupy some 16 000 km^2. Saltmarshes provide valuable ecosystem services and are generally recognized as among the most productive ecosystems on Earth. This is considered to be ecologically important because excess detrital matter exported to marine waters sustains food webs, including important fisheries (i.e., Odum's [1980] 'outwelling hypothesis'). Although physically and biologically similar to saltmarshes elsewhere, Australian coastal saltmarshes have certain unique characteristics (e.g., the tidal zonation of marsh and mangroves and levels of productivity) that natural resource managers need to be aware of. Perhaps more so than elsewhere, the great majority of the Australian population lives along or near the coast. Consequently, Australian saltmarsh environments have been subject to significant human-driven change since European settlement. In spite of these compelling facts, Australian publications remain under-represented relative to the extent of saltmarsh on the continent. *Australian Saltmarsh Ecology* does much to correct this situation.

Australian Saltmarsh Ecology brings together leading saltmarsh researchers in Australia and represents the first synthesis of knowledge of Australian saltmarsh ecology. The book is the result of a growing awareness of the fragility and vulnerability of coastal saltmarsh, which has prompted a sustained research effort, particularly over the last decade. It is not a conventional text book that systematically deals with every topic related to saltmarsh ecology (such as, Paul Adam's *Saltmarsh Ecology*, 1990). Rather, it is a collection of papers that is well organized into ten chapters and covers most aspects of the topic: Australian saltmarshes in global context, distribution of Australian saltmarsh plants, geomorphology and habitat dynamics, the ecology of molluscs in Australian saltmarshes, ecology of burrowing crabs in temperate saltmarsh of south-east Australia, fish on Australian saltmarshes, saltmarsh as habitat for birds and other vertebrates, ecology and management of mosquitoes, protection and management of coastal saltmarsh, and mapping, assessment and monitoring of saltmarshes.

I have only two minor criticisms of this otherwise excellent book. First, smaller macroinvertebrates (other than molluscs and crabs), algae and bacterial associations are only dealt with indirectly, but this may be due to the scarcity of studies on these topics. Second, given the extent and importance of inland saltmarsh habitat in Australia, these unique ecosystems have only been dealt with when comparing to coastal saltmarsh (although the distribution of common saltmarsh plants presented in Chapter 2 includes inland areas and is very useful). I would have expected at least an entire chapter devoted to this topic because, although similarities in fauna and flora exist, inland saltmarshes are in many ways rather different than coastal ones. This problem could have been avoided by changing the book title to 'Australian coastal saltmarsh ecology'.

In conclusion, this book is a valuable and long-overdue resource that will benefit saltmarsh ecologists, managers and other stakeholders, as well as students and the wider public.

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