Book reviews

Edited by P. Dann

BANDER'S AID — A GUIDE TO AGEING AND SEXING BUSH BIRDS
by Ken Rogers, Annie Rogers, Danny Rogers with assistance from Brett Lane & Bruce Male

1986. A. Rogers; St. Andrews, Victoria. Pp. 138, b&w drawings 12, 1 map, many tables, 295 x 210 mm. Available from RAOU, $20 (posted).

BANDER'S AID — SUPPLEMENT NUMBER ONE
by Ken Rogers, Annie Rogers and Danny Rogers

1990. RAOU; Melbourne. Pp. 76, many tables, 205 x 150 mm. Available from RAOU, $10 (posted).

These days it is pleasantly surprising to read bird books that present totally new information about Australian birds. These two books do just that as the information they contain is not available from any other source. They are indeed specialist volumes aimed, as the title suggests, at bird banders. However, in my opinion, these volumes would be of great value to any bird watchers who have an interest in the plumages and measurements of Australian birds.

The original guide was published in 1986 by the authors. It contains an introduction, three pages describing the layout of the species descriptions, eight pages covering the measurement techniques, two pages of advice to banders, as well as 95 pages of the species descriptions themselves. In addition there are appendices covering moult, statistical notes, and Australian Banding Scheme age codes, plus references and an index. There is also a simple guide to the identification of 'brown robins in the hand'. One of the strong points of this book is that it explains the methods used to obtain data as well as tabulating in detail the information gathered. Further, the information is presented clearly, explaining from how many birds and from what location the data were derived. This allows comparison between birds of different areas and clearly identifies the areas where knowledge is lacking.

The supplement was published in 1990 and contains mainly the same format of species description as the first volume, although it also contains two useful and comprehensive keys for birds that are difficult to identify in the hand — one for the quails/button-quails and one for the four brown fairy-wrens (Superb *Malurus cyaneus*, Variegated *M. lamberti*, Splendid *M. splendens* and White-winged *M. leucopterus*). In addition the supplement contains an integrated index for both volumes that saves checking in two indices.

Between the two volumes there are details of 145 species, plus the three identification keys, mainly of bush species, although the supplement does contain details of seven waders. The species descriptions are very comprehensive and detailed. They include male and female plumages, as well as immature and juvenile plumages where possible, and details of moult, ageing and sexing. This hopefully will act as a spur to many banders and ex-banders to extract information from their notebooks and help fill the gaps.

The authors have done Australian ornithology a service by initiating this study. They admit these books are only a starting point and that a lot more data need to be collected. However, if banders can rise to the occasion, this approach of cooperative data gathering can lead to a major advance in our understanding of the regional differences in the morphology of Australian birds. It is to the RAOU's credit that they can see the advantages to Austraiian ornithology and are prepared to support the publication of the first (and hopefully not the last) supplement.

In summary, these are two excellent additions to the literature of Australian ornithology. These volumes complement the other Australian publication important to banders, *Bird in the Hand* (H.J. de S. Disney *et al.*, 1974; Bird Banders' Association of Australia, Sydney) which provides a more pictorial presentation of species differences but contains less data. The challenge is for Australian banders to combine these complementary approaches to produce an Australian equivalent of Svensson's (1984) *Identification Guide to European Passerines.*

Grahame Clark

AVIAN GENETICS: A POPULATION AND ECOLOGICAL APPROACH
edited by F. Cooke and P.A. Buckley

1987. Academic Press, London. Pp. 488, 155 x 235 mm. $164.

This publication provides a summary of molecular and genetic procedures as applied to population and ecological studies. As such it does not cover DNA-DNA hybridisation or other molecular techniques which have been utilised recently in phylogenetic reconstruction. Most attention has been directed to the use of genetic and molecular techniques in systematics and so this book is important in highlighting other uses of these relatively 'modern' techniques.

The book is divided into three parts. The first deals

with specific techniques as well as introductory chapters on single gene and quantitative variation. Both the introductory chapters are informative and well written. The chapters on protein electrophoresis and DNA sequence variation provide excellent summaries for those unfamiliar with the techniques and I recommend them to any ornithologists with a passing interest in these fields. A word of caution on the electrophoresis chapter by Evans is that it presents many ideas as facts and so should be read with some scepticism, particularly the correlation of the time of egg-laying and number of eggs laid in Starlings *Sturnus vulgaris* and Mute Swans *Cygnus olor* with their esterase genotypes. For those wishing further details, more up to date references are: Richardson *et al.* (1986) on protein electrophorsis; Wetton *et al.* (1987) and Burke & Bruford (1987) on DNA finger-printing; Shields & Helm-Bychowski (1988) on mitochondrial DNA. The chapter on chromosomes is very out-of-date (pre 1984?) but this is more a reflection on publishers and not the author (see below). Chromosomal characters in birds are of very limited use in ecological or population studies and are more applicable to systematic studies (Christidis 1990) and as such the chapter is not really suited to the present volume.

The second section deals with factors influencing patterns of genetic variation such as population structure, natural selection, geographic isolation and speciation. Again the quality of chapters is uneven, the best being by Rockwell and Barrowclough on gene flow and genetic structure. The final section deals with four case studies detailing examples of quantitative ecology (chapter 11), geographical variation (chapter 12), population genetics (chapter 13) and sexual selection (chapter 14). An update of work on the Lesser Snow Goose *Anser caerulescens* (chapter 13) is in Quinn *et al.* (1987).

Although this book covers its intended topics adequately it does suffer in presenting many concepts and hypotheses as facts, such as a selective basis for protein enzyme polymorphisms, without offering alternative possibilities. Nevertheless, if the chapters are used as introductions to the field and not as 'gospel', this book will be of benefit to many ornitholigists and evolutionary biologists in general.

Finally, one serious flaw in the book is that many of the papers are 'out-of-date' after 1984 even though the publication date is 1987. The book was originally due in 1984 and I am not sure why it was delayed. Given this, the publishers should have allowed the authors to update their manuscripts and so provide value for money. Incidentally, the price of the book in Australia is criminal at $164! (it retails at £40 in the United Kingdom). Blame the distributors for this as they set the price not the poor booksellers.

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Les Christidis

THE LYREBIRD: A NATURAL HISTORY by Pauline Reilly

1988. New South Wales University Press, Kensington, New South Wales. Pp. 91, colour plates 9, b&w plates 17, b&w drawings 6, maps 1, 170 x 240 mm. $14.95.

Apart from Smith's (*The Life of the Lyrebird* 1988, Heinemann) valuable, but rather focussed account, there has been no recent attempt to pull together into a single volume our greatly expanded knowledge of the natural history of the endemic Superb Lyrebird *Menura novaehollandiae*, one of Australia's most fascinating, bizarre and beautiful birds. Earlier accounts of the species natural history, such as those of Pratt (*The Lore of the Lyrebird*, Robertson & Mullens, 1988) and Chisholm (*The Romance of the Lyrebird*, Angus & Robertson, 1960), remain of historical interest but are, of course, hopelessly out-of-date, inaccurate and, in parts, often fanciful.

Pauline Reilly's book fills this 'vacant niche' with distinction and clearly benefits greatly from her broad ornithological and considerable literary experience, and especially from her own extensive involvement in lyrebird research in the field. It is aimed at the general reader, but includes special panels containing more detailed scientific information that can be read or skipped over

without loss of continuity, a device which works well on the whole.

The earlier chapters deal with the lyrebird's annual cycle, geographic distribution and general habits and morphology, the latter being covered in considerable detail. Chapters rather oddly titled 'The Male' and 'The Female' focus on breeding age, territoriality, display behaviour and song, the details of breeding and reproductive success. The behavioural and morphological developments of the young are outlined and the controversial origins and relationships of the lyrebirds discussed. There is an extensive coverage of song and mimicry for which lyrebirds are so well known; it examines *inter alia* the occurrence of vocal mimicry among birds generally, the choice of models to imitate, the imitation of inanimate objects and mammals and the role of learning in lyrebird song development. The concluding chapter entitled 'Loose ends' deals with longevity, captive birds, fallacies about lyrebirds and the future of the species.

Lyrebirds are fascinating precisely because they are unusual in so many respects and, not surprisingly, the evolution and significance of these unusual traits has been the subject of considerable debate. Most of the contentious issues in lyrebird biology are dealt with here in considerable depth and mostly with admirable objectivity. There is, for example, a considered appraisal of the polygyny versus promiscuity debate, the author concluding on balance that promiscuity is the more appropriate description for the species' mating system. The label itself does not matter, but clarifying the nature of parental investment and sexual bonding is fundamental to understanding the selection pressures that may have influenced the evolution of the lyrebird's mating system. The arguments about lyrebird phylogeny and systematics are also reviewed in detail. However, given the considerable divergence of opinions on these issues, the current lack of a clear-cut answer and the problems associated with some of the research techniques being employed (which are not mentioned), the treatment is probably too extensive, although admittedly it is confined to a special take-it-or-leave-it panel. Considering the curious geographic distribution of the genus, Reilly argues that the puzzling absence of lyrebirds from apparently suitable habitat north-west of Melbourne may reflect the inability of an essentially cursorial species to cross extensive areas of inhospitable environment. Even more problematical is the distribution of Albert's Lyrebird *M. alberti*; did it ever occur further north than at present and if so, what caused the contraction to its present very restricted range on the Queensland-New South Wales border: competition, fragmentation of habitat? Given the use of the special 'science panels', I would have liked to see a more in depth, if necessarily speculative, discussion of the possible adaptive nature of the lyrebird's territorial system and the significance of delayed breeding, drawing on recent theoretical ideas.

I felt that the discussion of lyrebird vocal mimicry could have addressed the functional or adaptive significance of the phenomenon more fully and less dogmatically; only restricted reference was made to some of the more important recent theories and investigations in this area. Reilly concurs with the idea that lyrebirds do not mimic species that breed when they do; this is not entirely true and anyway hardly unexpected, given their breeding phenology. She argues rather forcefully that its significance lies in reduced signalling ambiguity, an hypothesis that is far from proven. In contrast, the question of the extent to which lyrebirds mimic the sounds of inanimate objects and animals other than birds is tackled with an objectivity normally absent from this debate. The author concludes that such mimicry is infrequent and mostly confined to subsong. Most of the more amazing claims about this aspect of lyrebird vocal mimicry simply do not withstand close scrutiny.

The line drawings and colour plates in this book are quite adequate and helpful, but one serious drawback is the quality of some of the reproductions of black and white photographs. It might have increased the price of the book, but they should have been presented as glossy prints. Another minor irritation is the absence of references (sometimes even for quotations) from the body of considerable sections of the text. Presumably this was done to avoid cluttering up the text for the general reader, but it is frustrating when some particularly contentious issue is being discussed.

Notwithstanding these minor criticisms, this is a thoroughly researched, up-to-date, interesting and eminently readable account of what we know about lyrebird natural history. It also serves to emphasise indirectly the large gaps in our knowledge of lyrebird biology, and especially the need for a detailed study of Albert's Lyrebird. The main and considerable threats to the lyrebird's continued existence seem to be habitat degradation and destruction and exotic predators, and they stem from human environmental mismanagement. As Reilly rightly concludes, the extinction of lyrebirds would 'stand as an indictment of our greed and careless disregard of our culture'.

A. Lill

THE BIRDS OF SOUTH AMERICA, VOLUME 1 THE OSCINE PASSERINES

by Robert S. Ridgely and Guy Tudor, with the collaboration of William L. Brown, illustrated by Guy Tudor

1989. University of Texas Press, Austin. Pp. xvi + 516, colour plates 31, maps 700, 185 x 260 mm. US$55.95 (hard cover).

Slowly but surely the black hole that is South American ornithological literature is being filled. Unlike English and French colonisers, the Spanish, Portuguese and Dutch did not leave a legacy of handbooks and monographs on which to found field guides and other aids to identification. Thus it was not until 1970 that Meyer de Schauensee, a museum-based ornithologist, produced *A guide to the Birds of South America*, the first comprehensive account of the birds of the continent. It did not pretend to be a field guide, but it was better than nothing. Eight years later came *Birds of Venezuela*, by the same author but this time with Bill Phelps' field experience and Guy Tudor's excellent colour illustrations. Guy Tudor went on to illustrate *Birds of Columbia* and, with Robert S. Ridgely (author of *Birds of Panama*), this book.

The problem with South America, as de Schauensee realised, is that it has so many species. More than 3100 are residents or migrants. It is hard enough to fit the birds of one country into a manageable book (there are 48 tyrant-flycatchers on one plate of *Birds of Venezuela*), but when it comes to a continent it is impossible. Hence the authors have wisely decided to divide the birds of South America into four volumes, commencing (Hooray!) at the 'end', with the Oscine Passeriformes. Even so this book weighs 1.75 kg, more than twice the weight of *Birds of Venezuela*.

Any addition to the literature on birds of South America is welcome, this one is doubly so because it is very good indeed. It covers the 750 species of oscines: jays, swallows, wrens, thrushes and allies, vireos, wood-warblers, tanagers, icterids and finches. We might call it a Clayton's field guide but the authors call it a 'field-orientated book', not manageable enough to be a field guide but not comprehensive enough to be a handbook.

Guy Tudor has illustrated about three-quarters of the species covered on 31 coloured plates (eight to 22 drawings per plate). The species are arranged in visually similar genera or groups (e.g. all the euphonias are on one plate). The salient characters are on the facing page, plus the names of similar species which are not illustrated. The idea is to find the bird which most closely ressembles the bird you wish to identify, and then consult the main text where more details are given: full description, similar species, habitat, behaviour, range, and distribution. This system works well for those with some experience of South American birds but it does not solve the problem that beginners face: what family is it, rather than what genus? (tanagers may look like finches, honeycreepers look like warblers, etc.).

In selecting the illustrations the authors have preferred widely distributed species to localised endemics, and birds in eastern and southern South America to birds in Venezuela and Columbia which are already covered by field guides. North American migrants are also mostly excluded, though the authors note that these are only likely to be seen in the northwest of the continent. There is a list of all known inter-continental migrants.

Despite its inherent quality, the value of this book to those travelling to South America from Australasia is uncertain. The authors claim that 'virtually every South American bird can be found within at least a reasonable striking distance of a road or hotel'. If so, this is just as well as the authors freely admit that the book is more capable of being used in a car or hotel than it is in the field. The weight (nearly 10% of the economy baggage allowance) and limited range of the book must be compared with a local field guide or Dunning's excellent photographic guides *South American Birds* and *South American Land Birds*.

Nevertheless, I await with keen interest the second, and incomparably more difficult volume in the series: The Sub-Oscine Passerines (which will include the notorious tyrant-flycatchers). Let us hope that the series does not go the way of its predecessor Emmett Blake's *Manual of Neotropical Birds*, which disappeared without trace after its first volume appeared in 1973.

David G. Robertson