

BOOK REVIEW

ATLAS OF VICTORIAN BIRDS by W. B. Emison, C. M. Beardsell, F. I. Norman, R. H. Loyn. Graphics and Analyses by S. C. Bennett, Department of Conservation, Forests and Lands and the Royal Australasian Ornithologists Union, Melbourne, 1987. 271 pages, many maps. Price \$20.

The RAOU's data base for *The Atlas of Australian Birds*, contains a wealth of information, much more than was presented in the book (Blakers, Davies and Reilly 1984). Despite some of its inherent weaknesses, the sheer size of the data-base (approximately three and a half million records) should allow some exciting and important advances in Australian ornithology to occur, when further analyses are performed and published.

A step in this direction has occurred with the *Atlas of Victorian Birds*. A disproportionate number (ca 615,000 or one fifth) of the Atlas records were made in Victoria, and so it is fitting that a Victorian Atlas be produced. It both presents information of finer resolution than did the national atlas (10-minute rather than one-degree squares) and analyses seasonality of occurrence.

Using the RAOU field atlas data (collected from 1977 to 1981 inclusive) and an additional 65000 observations made by officers of the Victorian National Parks and Wildlife Division between 1973 and 1986, this atlas has been published jointly by the Department of Conservation, Forests and Land and the RAOU. The species accounts and maps occupy 228 of the 271 pages. Its presentation is basic but adequate, and the binding seems robust. At \$20, the book is affordable for those interested in the potential application of this type of data set or those intending to visit Victoria and wishing to be forearmed with regard to birds likely to be seen in a particular area.

The authors, publishers and Simon Bennett are to be commended for the pictorial presentation of information. The maps instantly convey the information intended, i.e., distribution and frequency of occurrence (or "reporting rate" which can safely be related to a general scale of abundance). The latter information is presented using four classes of reporting rate (1-15%,

16-31%, 32-63%, 64-100%) with successively higher classes designated by more obvious symbols on the maps (a small, lightly toned cross to a large, fully black square). This technique is more effective than that used in the Australian Atlas, and the standardization of reporting rates between species is to be preferred. We were disappointed, however, that a fifth "least abundant" category (1-5%) was not employed to highlight rarer species and the occasional records of more common species on the periphery of their ranges.

The authors looked for significant variation in reporting rates on a monthly and seasonal basis within the 22 defined physiographic regions and over the State as a whole. They then decided whether significant variations were attributable to migration or other factors such as post-breeding dispersal and behavioural changes through the year e.g. increased conspicuousness due to pronounced calling during the breeding season. We found this analysis and interpretation the most pleasing aspect of the publication. The documentation and study of dryland bird movements in Australia has been neglected for too long. Partial and annually varying migration is difficult to study, compared with the highly synchronized examples quoted in the Northern Hemisphere literature. However, analysis of data-bases such as these will reveal meaningful patterns, so advancing knowledge in this area.

Breeding records are shown on a smaller, accompanying map, and are also tabulated by month and indicate customary breeding seasons.

For each species, a simple and brief text focuses on habitat preferences, patterns of distribution and movement, and preferred nesting sites. These texts are informative, they read easily and complement the illustrated information.

Twenty of the introductory pages are devoted to a description of the Victorian environment and its major avian habitats, with maps of mean annual rainfall, elevation, and the 22 physiographic regions. Various features of each region are discussed under 13 headings relating to habitats, land-use, environmental determinants, biogeography, and some summary bird statistics: most frequently reported species, reporting rate of threatened species, and number of species

recorded in the region. This section of the book suffers for two reasons. Firstly, it lacks a detailed biogeographic explanation and synthesis of distribution patterns. Secondly, without an integrative biogeographic analysis the section seems somewhat pointless, and it is not often referred to in the subsequent species accounts. A small reference list, index and three appendices (one a gazetteer) complete the book.

We recommend this publication as good value for money; it is packed with valuable, well-presented information. It is an important step along the path to full utilization of the large RAOU Atlas data-base. However, we would like to make the following suggestions, not in criticism, but rather in the hope that other regional atlases may be forthcoming. We heartily concur with the RAOU President who wrote in the RAOU Newsletter No. 75, p. 3,

"It would be wonderful if similar support from the relevant government departments in the other states could ensure an *Atlas* for each one", and the publication is a "credit to its authors and Simon Bennett".

One of our major criticisms of the book is the absence of references from the species accounts. In contrast, the extensive use of literature in *The Atlas of Australian Birds* is the second most useful feature of that publication, after the maps. Referencing would not have made an appreciable difference to the size and cost of the Victorian Atlas, and would have greatly enhanced its value as a reference work on the birds of Victoria. Instead, readers are wholly reliant on the authors' judgement and accuracy for conclusions drawn in the species accounts.

If the following additional information could have been presented succinctly as maps it would have enhanced our enjoyment of the publication (as well as allowing readers to make their own assessment of the completeness or otherwise of the data-set): the number of species recorded per 10' cell, the number of bird-lists, average size of bird-lists, and number of incidental (one only) records per 10' cell, the total number of records per 10' cell.

Similar information could have been summarised for each physiographic region. It would be useful to know the area of each region and to be given an estimate of the proportion of natural vegetation remaining in each. Obviously bird-watchers' activities would have been

concentrated around Melbourne and a few other "hot spots", and the resulting bias in the data-base should have been presented.

To investigate this problem J. R. gathered bird observations over two days of Easter 1988 at South Wonwondah in the 10' cell centred on 36°55'/142°05', and compared these observations with the species list for that cell in the Victorian Atlas. The Atlas had 111 species recorded in that cell and an additional 95 species in the eight adjacent cells. Of the 76 species recorded over Easter, 21 were additional to the 111 species reported in the Atlas. Only two had not been recorded in any of the adjacent cells: Chestnut-rumped Hylacola and Forest Raven. Based on these findings we assert this cell was not sampled adequately and we suspect many of the more 'remote' parts of Victoria were likewise inadequately sampled. By comparison we doubt whether we could add any species to the Melbourne Region's 10' cells. If the Victorian data-base suffers from inadequate sampling in the State's outlying districts, then Atlas coverage, at the 10' scale, over the rest of Australia must be far from perfect. We know this to be the case for most of South Australia's agricultural regions, where only "respectable" coverage at this scale was attempted.

While uneven coverage is one inherent weakness of the data-base another arises where closely related, similar looking taxa have abutting or overlapping ranges e.g. Brown and Inland Thornbill, the *Calamanthus* spp, *Hylacola* spp, subspecies of White-eared Honeyeater, subspecies of Golden Whistler, corvids. The accuracy of field identifications cannot be relied upon in these cases. Specimens or the use of a few specialized, taxonomically reliable methods (or, in a few instances, meticulous field observations) are required to determine the precise range limits here. For example, in the Victorian Atlas the Shy Hylacola is shown as exclusively occupying the Little Desert Region, with the Chestnut-rumped Hylacola's north-western range limit depicted as being south and south-east of there. However, one of us (J. R.) has observed a Chestnut-rumped Hylacola in this region (36° 35'/141° 05'), and the occurrence of both species directly across the border in the Bangham district has been documented by Reid *et al.* (1983, *Birds and habitats of the Bangham district* Nature Conservation Society of S.A.: Adelaide).

The gazetteer could easily have been expanded to include all place names mentioned in the book, while a more detailed road map of Victoria (on the inside front cover) including all places mentioned in the discussion of the physiographic regions, would be an asset to non-Victorians. We would also welcome a fourth appendix, listing for each region the number of records of every species.

A list of rare and threatened Victorian birds should have been included and also perhaps a section of the book should have been devoted to appraising bird conservation in Victoria, with a focus on the application of the data-base to this topic. It should be remembered that the goal of gaining a more comprehensive knowledge of the distribution of Australian birds, and ultimately, therefore, their conservation status and requirements was given as an important reason for instigating the Atlas of Australian Birds Scheme.

Obviously Atlas data can be used to pinpoint species possibly at risk, simply by extracting the least recorded species. Trends can also be detected, given a reasonably accurate knowledge of former distribution, and the decline of Bush Thick-knee and Grey-crowned Babbler is pointed out in the Victorian Atlas. Obvious range contractions such as these are the most manifest signs of the pervading process of ecological impoverishment, i.e., loss of biological resources/variation. The authors of the *Atlas of Victorian Birds* make only passing reference to the decline and loss of woodland species from the heavily cleared Mallee, Wimmera Plains and Northern Plains regions. The apparent gaps in distribution of several thornbills, Southern Whiteface, White-browed Babbler, Grey Shrike-thrush, Crested

Bellbird, Golden Whistler, Red-capped Robin, Flame Robin, Jacky Winter, Common Bronzewing, Peaceful Dove, Emu, Southern Boobook, Red Wattlebird, White-winged Chough, Grey Butcherbird and Grey Currawong in this part of Victoria should serve as a warning that even relatively common species are not immune to this insidious process, caused by habitat degradation, clearance and fragmentation. We argue that the continuing ecological impoverishment of many heavily cleared agricultural districts of Australia warrants an intensive research effort from both professional and dedicated amateur ornithologists. It is hardly coincidental that a very similar group of species has been identified as at risk in the long term in South Australia's agricultural regions, where the loss of habitat, generally, has been more severe (Reid and Carpenter 1986, unpublished document: S.A. Dept of Environment and Planning).

South Australian ornithologists will be interested to learn that a number of our rare species were recorded in 10' cells abutting the state border during the Victorian Atlas period: Pied Currawong, Olive-backed Oriole, Grey-crowned Babbler, Spotted Quail-thrush, Rufous Fantail, Pink Robin, Barking Owl, Ground Parrot, Gang-gang Cockatoo and Azure Kingfisher. Perhaps further work within habitat remnants in the South-East of our state may yet be rewarded with some of these species.

To conclude the Atlas of Victorian Birds provides much needed data in accessible form, but it also suggests many important questions that urgently require answers.

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