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CSIRO Publishing  
PO Box 1139 (150 Oxford St)  
Collingwood, Vic. 3066, Australia

Telephone: 61 3 9662 7622

Fax: 61 3 9662 7611

Email: [emu@publish.csiro.au](mailto:emu@publish.csiro.au)



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## THE DIRECTORY OF AUSTRALIAN BIRDS. PASSERINES

By R. Schodde and I. Mason

1999. CSIRO Publishing. Pp. 851, maps. 300 × 215 mm. A\$180.

Publication of this splendidly produced, 2 kilogram weight, large format, 841 page tome represents a landmark in Australian avifaunal documentation. Checklists of birds are normally drab, technical documents, but not this one for CSIRO Publishing have excelled themselves, in presentation, layout, and with tasteful use of large-scale colour maps. The volume is a fitting climax to Schodde's lifetime work, developing the Australian National Collection of Birds in Canberra. This collection now rivals the world's other great one, the Mathews Collection in the American Museum of Natural History, New York. The stated objective of this volume is to document Australia's avian biodiversity. Thanks to CSIRO and the authors we now have a much clearer picture of what we are trying to conserve.

In its structure the Directory is balanced and conservative, with the literature comprehensively covered. The authors are generous in giving credit to their predecessors. Indeed, the book is dedicated to the founders of modern Australian geographic variation studies: Julian Ford, who lost his life in the course of taxonomic research, the writer, Ernst Mayr, and Shane Parker.

The Directory follows the classification of Sibley & Ahlquist (1990) for higher taxa, as based on molecular studies, and as extensively modified by Christidis & Boles (1994). The first two authors eliminated many long-used Family divisions, that had been based on morphology and ecology. Christides and Boles, noting that other molecular results differed from the Sibley-Ahlquist data, restored many of the traditional and narrower family limits. Schodde and Mason use osteological data to carry the clarification further. Thus, the families Acanthizidae and Pardalotidae are reintroduced. These recategorisations are appropriate and make comparative ecological and adaptive work easier.

Coverage in the volume is comprehensive with each of the 35 families preceded by a brief, informative essay that includes relevant characteristic osteological and molecular data. The 342 species accounts are accompanied by a large scale distribution map in colour separating the constituent 'ultrataxa', a new term coined to avoid the stigma sometimes attaching to the term 'sub-species': 726 ultrataxa are diagnosed. To save space, the core ranges are allocated relative to 61 previously designated 'geographical sub-regions', and 26 listed 'habitat types'.

To hasten the publishing of this massive work the authors have taken the unusual step of presenting 46 of the ul-

trataxa for the first time, without peer review in a scientific journal. Seven pairs of species listed in Christidis and Boles (1994) have been amalgamated and 18 taxa are raised to species level. Three species (a starling and two swallows) are added to the Australian list.

A core objective of the Directory is the identification, categorising, and naming of geographic forms. We have not previously had such a list for our Passerines. The name 'ultra-taxon' is introduced to identify these as 'biodiversity units' of special conservation importance. This is meritorious. The idea is an outgrowth of overseas argument that these marked regional forms are of pivotal importance yet, because they do not rank as species, are ignored in protection legislation.

Indeed, Cracraft (1983, 1992), McKittrick & Zink (1988) and others argue that the classical 'biological species', defined as an interbreeding group of individuals, is inadequate to identify distinctive populations in need of conservation. This particularly applies to isolated outlier forms. Latterly, a small group of 'phylogeneticists' have suggested an alternative species concept, applying the term to any differentiated terminal member of an evolutionary tree. Many of the Schodde and Mason 'ultrataxa' are such forms.

Schodde and Mason flirt with the new 'phylogenetic species' concept but, wisely, reject this trap. Their 'ultra-taxon' is defined as 'circumscribes regional inter-breeding populations of birds that differ discontinuously from neighbouring relatives in at least one morphological character that is presumed to be genetically based' (p. 4). The term is applied to any terminal taxon at any taxonomic rank on the phylogenetic tree: it is used trinominally and binominally at the level of 'subspecies' and 'monotypic species'.

The word 'ultrataxon' slips off the tongue neatly. 'Ultra', however, suggests a supra-, rather than an infra-specific category. Whether or not it will supercede the term 'subspecies' only the future can decide. It does not completely escape the problems of the subspecies concept (e.g. what to name, and what not to name). The conservation component could well be one of the more important features of this volume. (This being so the widespread opposition to the collecting of scientific specimens for museum and conservation studies is curious and misplaced. Without the assembly of the National Collection this critically important Catalogue would never have seen the light of day!)

What criticisms must be levelled at the Directory? I have major concerns over two 'procedures' components. The first is direct, the second tangential.

Of some worry is this presentation of results and interpretations without the prior publication of a taxonomic reviews in refereed journals, within the framework of geographic variation studies. Geographic forms commonly do not come in the neat morphological and distributional packages that the descriptions and range maps infer. A couple of

prior reviews/articles would have permitted completeness of geographic coverage by specimens, infra-population variation and sample sizes to be explored. More comprehensive sets of measurements could have been made available. Are, for example, the named forms and their ranges, and those of the 'intermediate forms' fully supported by complete series of specimens, or are interpretive 'jumps' involved? Minor geographic variation within the named forms (this even occurs within the south-west and Tasmania) cannot be covered in this synthesis but it could have been covered in prior reviews. The skeletal data also cries out for more elaborate treatment and sample sizes. An intimacy with the reader, in discussing methodologies, relationalizations, and uncertainties, would have provided lively reading, increased reader confidence and enthusiasm, and inspired future work. Others like Julian Ford have developed such reviews. The writing of these papers would have slowed down the Directory by a year or two but it would have been valuable. Elsewhere (Keast 2000), I attempt, given the larger number of specimens and distributional data available to assess how 'good' or final, the Schodde-Mason allocations are.

My second concern only impinges on a component of the Dictionary. However, this is an appropriate place to bring it up. It concerns the habit we have got into in Australian ornithology of adopting far-reaching reclassifications on the basis of one- or two-person taxonomic assessments, or arguments. This contrasts with the use of a Checklist Committee to adjudicate issues by the American Ornithologists' Union. Until the 1960s the RAOU also had such. The 1926 Checklist was excellent and stood the test of time because it was the work of such a Committee. The idea was abandoned, I understand, when Herb Condon, then the convenor petitioned the RAOU Council to disband his Committee because he could not get along with it. Subsequently, we have accepted, for *Emu* and other publications, the arbitrary taxonomic conclusions of Condon (1969), Schodde (1975) and Christidis & Boles (1994). Some might see Schodde and Marchant English names committee being an example of this problem, too, although here a four-person Committee was involved. A result of the acceptance of one of two personal decisions has been some nomenclatorial turbulence, with later backpeddling and restorations of the original usages. I am not concerned here with subspecies or ultrataxa, only with genus or species status issues; why should we be so sloppy?

Such issues relative to the current Schodde-Mason volume are minor. Decisions largely involve which differentiated isolated geographic forms should be 'allowed' species status and which not. I personally like the author's decision in cases like allowing three species of *Falcunculus*. Is, though, the New Zealand population of the Grey Fantail *Rhipidura fuliginosa* sufficiently distinct from the Australian one to merit 'species status'? Elevation is on the

basis of its being as 'different' from the southern and eastern Australian one as the northern mangrove form *phasiana* (that some have now given species status), and the Australian (*albiscapa*) and the New Guinea *albolimbata*, and *fuliginosa* and the New Guinea *hyperythra*. Should the name of the Australian form, so long in use, be changed without a more comprehensive taxonomic review of the whole group or, minimally, until a Checklist Committee rules on it.

The Directory is to be admired. I like various things including the use of micromorphological criteria to help pinpoint winter ranges (Mayr 1941; Keast 1958; Ford 1981). The work will long be a basic reference. It must not be interpreted as the 'final word' on the subject it covers. This would be counter-productive. It will be a good starting point for future molecular studies.

Allen Keast

Queen's University, Kingston, Ontario, Canada

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