

Book review

EXTINCT BIRDS

By Julian P. Hume and Michael Walters

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Julian Hume knows better than most the effect of the ongoing late Holocene extinction event on the avifaunas of the world, having worked for decades to reveal its extent in the Indian Ocean region, notably on the Mascarene Islands. In this book, he has combined his knowledge of recent avian extinctions and artistic talent, with the expertise of Michael Walters, the curator of the bird egg collection of The Natural History Museum, in Tring, Hertfordshire. Their aim was simple – to present the most comprehensive list of all those birds known to have gone extinct in the last few thousand years, most if not all due to the effect of humans (and associated commensals) entering their domain. The authors define their period of interest as the last 700 years, although in places this time frame is extended to 2000–3000 years ago to include those species now extinct following first human arrival in island habitats, such as in New Caledonia.

The book is divided into two sections. The first part of the book, 'Extinct birds', lists all extinct avian taxa known from museum specimens (skins, eggs, skeletons), recent fossils and credible historical accounts. The inclusion of recent fossils is critical to understanding the scale of this global and ongoing extinction event. Many other works are arbitrarily restricted to historically known taxa, but this excludes the recent effect of human societies without a written tradition, such as through the Pacific. Furthermore, it was a wise move to list both species and subspecies in this work because increasingly we are seeing taxa previously ranked as subspecies being elevated to full species rank following molecular-based phylogenetic analyses. The inclusion of subspecies here will be a useful reminder as to what should be considered in future phylogenetic analyses. The second part of this book presents a list of 'hypothetical birds' that may have formally existed. Doubt lies in whether these birds are biologically distinct from known species, because, for example, they may represent aberrant individuals, or historical records of these birds are problematic. The book concludes with four appendices: the first lists 30 data-deficient taxa, which may or may not be extinct; the second lists 472 'hypothetical', doubtful or invalid taxa – a section that 'helps clear up a number of the taxonomic muddles that pepper the world of palaeornithological nomenclature' (p. 13); the third appendix lists rediscovered taxa, including 62 found to be still extant since 1990; and the fourth lists museums and institutions that hold the all-important voucher specimens.

The use of a well-founded taxonomy and consistent nomenclature is crucial for the challenge of listing all extinct taxa, and here the authors use the *Howard and Moore Complete Checklist of Birds of the World* as the basis for their nomenclature and the International Ornithological Committee for the arrangement of taxa. In some instances, where recent data are more definitive, and especially for the taxa known only by fossil material, they have deviated from these sources. The placement

of Aptornithidae between the galliforms Sylviornithidae and Numididae is, however, hard to understand, as it has never been considered a galliform, but rather a gruiform as supported by both morphological (Livezey) and molecular (Houde) data, see references in Gill *et al.* (2010).

The comprehensive nature of the list of *Extinct Birds*, combined with the format for the treatment of each species or subspecies, makes this an indispensable reference for any serious palaeornithologist. The list is first grouped by families, and each species or subspecies is headed by its common name and accepted scientific name. Under each species or subspecies are listed the primary synonyms with authorities, page number on which the taxon is erected and type localities; a section on where specimens currently reside, the current status, former range and a description of the species. Each account concludes with a text describing aspects of its biology, circumstances of its discovery and other interesting data as available. This ranges from comprehensive treatment for well-known taxa such as Dodo (*Raphus cuculatus*) and South Island Moa (*Dinornis robustus*) to minimal accounts for poorly known taxa.

The list contains 493 species and subspecies of birds; a sobering number indeed. I may have missed it, but the authors do not provide a cut-off date beyond which data were not added, but given the early 2012 publication date, it appears likely the list is complete to about the end of 2010, although there is at least one species described in 2011 (*Gallirallus steadmani*). A strength of the book is that it is well referenced with no fewer than 68 pages of references including full citations for all taxon authorities – this resource alone will be useful to students in the area. The index is slightly limiting as it includes only taxon names (genera, species and subspecies) and common names; the primary indexing of species-level names e.g. *modestus*, *Gallirallus*, all synonyms, people and geographic place names would have made it even more useful.

The total of 493 taxa is rather a lot of taxa and given the far-flung origin of most, are too many for any single researcher to be familiar with. Yet the authors and the publishers have combined to present a thorough list that is highly informative, and remarkably clean of typographical errors. However, some such errors like 'Apterygidae' for Apterygidae (p. 23) and 'Megapodiidae' (p. 34) and 'Megapodiidae' (p. 327) for Megapodiidae stand out, as did 'Touranga' for Tauranga and 'Rev. W. Colensoe' for Rev. W. Colenso on p. 70. A couple of errors affecting nomenclature drew my attention. One is the original name for the South Island Goose, listed as '*Cnemiornis calcitrans* Owen 1865, p. 396 (Tunaru)' which should instead read '*Cnemiornis calcitrans* Owen 1866, p. 396 (Timaru)'. On p. 112, '*Vittirallus*' is given in error for *Vitirallus*, unfortunately creating a synonym.

It was pleasing to see the treatment of moa taking account of the latest research. However, while the nine currently accepted taxa are listed, and the status of *Dinornis* as monotypic in each of North and South islands accurately reported, the authors have incorrectly listed all the synonyms of *Dinornis robustus* under *D. novaezealandiae*. Thus, *Dinornis maximus* Haast, 1869, *D. maximus* Owen, 1869, *D. altus* Owen, 1879,

D. torosus Hutton, 1891, *D. validus* Hutton, 1891, *Palapteryx plenus* Hutton, 1891, *D. potens* Hutton, 1891, and *D. strenuus* Hutton, 1893 (not 1891), should all be listed under *D. robustus*. Also, *Dinornis gazelle* Oliver 1949 is inadvertently given for *Dinornis gazella* Oliver, 1949, adding to the synonym list for *D. novaezealandiae*. Furthermore, a major confusion is created under the name *Pachyornis geranoides*. This species, long known as Mappin's Moa, should now be listed under the common name Mantell's Moa, in honour of Walter Mantell (see Gill *et al.* 2010). Hume and Walters note 'the nomenclature of this species is extremely confusing' (p. 32) and then proceeded to ignore Worthy's (2005) complete synonymy including every name and combination used to refer to this taxon, and incorrectly list under *Pachyornis geranoides* the following taxa 'Euryapteryx gravis Owen 1870' [actually *Dinornis gravis* Owen, 1870], 'Emeus gravipes Lydekker 1891', 'Euryapteryx pygmaeus Hutton 1891', 'Emeus boothi Rothschild 1907' from Shag River not Shuy River, 'Emeus haasti Rothschild 1907', 'Emeus parkeri Rothschild 1907', 'Euryapteryx kuranui Archey 1927', which all belong in the synonymy of *Euryapteryx curtus* (Owen, 1846). Readers are advised to consult Gill *et al.* (2010) for complete synonymies for all moa.

This is the first work to list the many extinct *Gallirallus*-group rails now known; in the previous most comprehensive list by Steadman (2006) many were unnamed. Here, the authors have taken a somewhat middle road in the nomenclature of these rails, and for example use *Gallirallus modestus* instead of the long used *Cabalus modestus* for Chatham Islands Rail yet retain *Nesoclopeus poeciloptera* for the Fiji Bar-winged Rail that belongs in this group (Steadman 2006; Kirchman 2012). The small New Zealand Flightless Gallinule, a new name for the long known Hodgens' Waterhen, is listed incorrectly as *Gallinula hodgeni* instead of *Gallinula hodgenorum* to reflect its naming after the Hodgens brothers, see Olson (1986). However, errors are few and do not detract from the scholarly nature of this work.

Importantly, this book should stimulate further taxonomic work. The authors have identified taxa that are different, but are as yet unnamed, such as Chatham Islands Kaka, and have listed 40 hypothetical birds known from much disparate information that may facilitate future characterisation when new specimens are discovered. For example, the Kermadec Megapode may well be revealed in archaeological sites one day as was the New Zealand Pigeon on the Kermadecs.

Similarly, the compendium of doubtful and 'invalid' taxa is useful; however, some of the New Zealand taxa listed have been

treated previously. For example, Scarlett's Small Kaka was dispensed with by Holdaway and Worthy (1993), and both *Ocydromus insignis* Forbes, 1892 and Little Woodhen *Ocydromus minor* Hamilton, 1893 have been synonymised with *Gallirallus australis*, see references in Gill *et al.* (2010). Many of the taxa listed as 'invalid' are hybrids and are nomenclaturally unavailable for either parent species, but others are based on juvenile specimens or for other reasons are considered to be synonyms of other taxa. These synonymised taxa are not invalid for the purposes of nomenclature: they are just not biologically distinct from more senior taxa – a distinction that is not made clear.

The 62 taxa rediscovered since 1990 sounds like a lot, but provides little basis for optimism, as most remain at great risk of extinction. For many of these species, it is likely that we will just be able to more precisely date their extinction than that of most of their unfortunate feathered kin listed in earlier chapters.

To conclude, this book was not designed to be a good read, but rather to be a major resource into which the reader can dip at will to seek information on any extinct bird. This reviewer is most familiar with New Zealand and Pacific faunas, but I know of no taxa that have been overlooked. The work is well laid out and the text nicely broken up by a sprinkling of Hume's simple yet life-like sketches. The authors have succeeded admirably in their aims, in my opinion, and the book will make an important first port of call when seeking data on extinct members of any group.

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