

## REVIEW

### Flight of the huia: Ecology and conservation of New Zealand's frogs, reptiles, birds and mammals

Kerry-Jane Wilson

Canterbury University Press, Christchurch. 2004.  
ISBN 0-908812-52-3. 412 pages, soft cover,  
NZ\$ 49.95.

The title species is purely symbolic. This is a book about the natural rise and the human-induced demise of New Zealand's entire vertebrate fauna (except fishes). Although parts of it cover well-trodden ground, the book is a first for its wide-ranging overview approach to the fauna, with its evolutionary history, its unique qualities and its resulting conservation needs. Dr Wilson has provided an excellent review of all these topics and more, but it is for her succinct view of the status and issues of New Zealand conservation at the beginning of a new millennium that this book will be most appreciated.

The text is divided into ten chapters, each with numerous titled subsections which makes the information easy to find. The overwhelming focus is on birds but the other vertebrate groups get a hearing to the extent of 40 of the 337 pages. Frogs, reptiles and bats are relegated to the "forgotten fauna" (p. 299) which I had always thought was more apt for our invertebrates. Chapters cover New Zealand's evolutionary history, the special features of each vertebrate group, their conservation status before and after human contact, with a particular focus on 20th century life in the forests and around the coastline. Causes and results of extinction are analysed and used to emphasise the need for interventional conservation. Conservation philosophies are debated from a very balanced viewpoint and solutions suggested which build on the unique experience of New Zealanders in this field. It is a compelling story, clearly told, and will bring a sense of pride for what has been achieved, much of it by means of 'kiwi ingenuity'. Much of conservation is driven by a sense of guilt for what the human race has done to our natural heritage in the past. What of the future? Kerry-Jane has this to say: "New Zealanders in the late nineteenth century could have saved the huia but they chose not to thereby denying subsequent generations that part of their heritage.... Will future generations

thank us for the choices we make during our era of guardianship?" (p. 336)

The book is not only an invaluable reference (with its 673 references, up to 2002) for students of New Zealand vertebrate ecology and conservation, its clarity makes for absorbing cover-to-cover reading. The references are cited in the text using superscript numbers which link to a 'Notes' section where they are listed chapter by chapter. While the system allows one's reading to flow smoothly, I had a problem with this layout due to the text pages each carrying a running chapter title but the 'notes' lists being subdivided by chapter number only. Result: a lot of page turning. Two surprising errors caught my attention: On p. 306, both Somes and Mana Islands have found their way into Wellington Harbour, and on p. 316 the reference to Fig. 10.1 leads nowhere; there is no such figure.

For the serious reader, the text is amplified with numerous tables (e.g. vertebrate species that have become extinct on New Zealand mainland; threats and population trends in New Zealand albatrosses etc.), graphs and distribution maps. Unfortunately, there are no contents lists of tables or figures. There are two appendices, one for a checklist (common and scientific names) of amphibia, reptiles, mammals and birds of the New Zealand region with their distribution and conservation status, the other listing all invertebrates, plants etc mentioned in the book but not in Appendix 1. Four blocks of colour illustrations brighten the book with photographs of many of the animals and are enhanced by four almost mural-scale paintings by Pauline Morse, three of the Oparara Valley and its vertebrate life during the Otiran Glaciation, in the Holocene and at the present day, and one of the Pauatahanui Inlet wildlife in the Holocene. I particularly liked the small iconic animal silhouettes used to grace chapter headings and graphs. Quotations ranging from A.R. Wallace (1883) to Jared Diamond (1984) add colour and an academic quality.

This is not your average coffee-table book, nor is it a research tome. Something of interest will be gleaned from quick scans, but one needs to do some serious reading to fully appreciate the quality of information here. Dr Wilson has achieved the difficult task of writing comprehensive science for the informed general public without detracting from its value as a scholastic reference book. Excellent value at \$49.95.

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*Flight of the Huia* is the story of the vulnerability of the fauna of a pristine island archipelago to successive waves of predators over a period of some 2000 years; firstly by kiore, the Pacific rat, and then

by successive waves of human invaders and their carnivorous baggage. These intrusions presaged a record of extinctions almost unparalleled for speed and finality anywhere else in the world.

The first of the ten chapters that go to make up this book leads with a section positioning New Zealand as the world's last untouched mini-continent with a faunal assemblage no less unique because of the absence of mammals other than a few small bats. Chapters two and three provide an introduction to the ecology and natural history of the reptiles, frogs, birds and bats, their distinctiveness and uniqueness on a world scale. It is a measure of the importance of molecular biology and the impact of predators (two strange bedfellows) that we now have more extant species of endemic reptiles than we have endemic bird species. Chapter four details the pre-human vertebrate fauna and the following chapter the impact on the fauna by successive waves of predatory invaders and the extinctions that followed. The role of acclimatisation societies is discussed, not only as advocates for the introduction of game animals and mustelids, but we are also reminded of their role in introducing alien bird species, many of which came to compete for food and territory. Space is given in chapter seven to discussing the interactions of the remnants of the original forest community and its 21st century intruders, the rats, mustelids and possum. There is a valuable chapter on seabirds and marine mammals with particular emphasis on the extraordinary variety of seabirds found on New Zealand's offshore islands and surrounding seas. The conservation of marine life, particularly birds, poses substantially different problems to their non-marine counterparts.

Chapter eight, on conservation issues begins on a triumphant note by introducing some of the successes in conservation and the names behind some of these. New Zealanders are arguably some of the world's best conservation managers and techniques developed here have been applied to many of the world's most endangered species, techniques born of a can-do attitude, a chronically under funded Wildlife Service in earlier days and a still marginally financed Department of Conservation.

The final chapter is devoted to a review of the changes to the vertebrate biota over the last 2000 years, how wildlife conservation has evolved since 1948 (when takahe were rediscovered) and what the future holds for what little remains of the endemic vertebrates of New Zealand.

Wilson writes fluently and appears at ease with her subject, though I feel that she has underestimated her readership. I particularly would have valued a fuller discussion on the issues surrounding the coming of kiore and whether the extinction record supports its arrival 1200 years or more before the settlement of the first Polynesians. The author hints

with some feeling on the matter of research and conservation on page 286 but regrettably fails to follow this up with any explanation, thus passing up the opportunity to dig a bit deeper on this issue.

The conservation v. preservation debate is given a small amount of space and co-management comes under brief discussion but endnote 64, chapter 10, states that detailed discussions of these issues (co-management) are beyond the scope of the book. I would have thought that a book such as this would have been an excellent place to air such matters, simply because they are some of the important conservation issues of the future.

There are rather more errors and ambiguities in this work than I would have expected. The use of Maori, common, and scientific names without stating clearly what is being talked about runs throughout the book. Organisms such as *Dorcus helmsi* come from left field without any explanation of what it is. It is actually a stag beetle, but the genus was revised almost 10 years ago to *Geodorcus*. Similarly, the asities of Madagascar would not be very helpful to most people (they are tiny arboreal passerines unique to that island). The North American treecreeper is *Certhia americana*, not *C. familiaris*. On p. 59 it is suggested that the ancestors of kiwi originated from flighted stock, on p. 63 that they evolved from flightless ancestors. Page 70 records that takahe breeds when three years old but Table 3.3 says usually two years. We are told that the eastern rosella is found only in Auckland and Wellington (it has survived happily in Dunedin for almost 100 years), that Hooker's sea lion does not breed on the mainland (it does), that Walter Buller was the son of Lord Rothschild (he was not) and harrier hawk is not listed (table 5.3) as a native species present on Banks Peninsula when it is. On p. 88 we are told that there are 10 species of moa but all other references in this book report 11. Figure 10.1, referenced to pages 320-321, does not exist, Appendix 1 has errors of omission and commission, and I have failed to find a use for Appendix II, including its errors. I am more than happy to forgive a few typographical and spelling errors, but not a totally indifferent index. Endnote references throughout the text are most valuable, but more so when pages have chapter numbers on them.

Most of these mistakes are of minor consequence; it is the abundance of them that is disconcerting and I have been saddened to find so many errors in a book that potentially has a wide readership and conceptually was a great idea. There is still much of value in this book and I look forward to its second printing when the opportunity to correct errors and update information will be taken.

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Finalist, 2005 Montana New Zealand Book Awards, Environment category. New Zealand once had a most unusual vertebrate fauna. Once home to the mighty moa, it is the only place in the world where tuatara and Jurassic-style frogs and other bizarre creatures such as kiwi and kakapo still survive. This book tells the story of New Zealand's birds, mammals, reptiles and frogs, from their Gondwanan origins to the arrival of the first rats, then people and their camp followers. The loss of now-extinct birds and the introduction of other species have changed ecological systems in this country for ever. In the last fifty years New Zealand has become a world leader in the conservation of endangered species. As an island archipelago New Zealand accumulated bird diversity and when Captain James Cook arrived in the 1770s he noted that the bird song was deafening. The mix includes species with unusual biology such as the kakapo which is the world's only flightless, nocturnal parrot which also exhibits competitive display breeding using leks. Flight of the Huia: Ecology and Conservation of New Zealand's Frogs, Reptiles, Birds, and Mammals. Christchurch, NZ: Canterbury University Press. ISBN 0-908812-52-3.