

collections. It is not a resource for what is held in the Macleay Museum it is a general and entertaining read. Its scholarly usefulness is in engaging today's researchers with a little of the history and philosophy of science. I recommend this book to all students who once ventured into the Macleay Museum or similar to look around and more generally to those interested in the origins of museum collections.

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Extinction & Biogeography of Tropical Pacific Birds

David W. Steadman, 2006
The University of Chicago Press, Chicago
ix-xiv, 594 pp., paperback
ISBN 0 226 77142 3
RRP US\$45

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ALTHOUGH Steadman's book was published in 2006, it has lost none of its value. Without question, *Extinction & Biogeography of Tropical Pacific Birds* is one of the most interesting and informative books published on the birds of the Pacific Region in the last 100 years. It ranks in importance with Ernst Mayr's *Birds of the Southwest Pacific* (1945) and should be read by everyone with an interest in the ecology and history of the Pacific islands.

The impact of humans on the fauna of the Pacific is well known, but I doubt many of us appreciated either the scale of that impact or the speed at which it occurred, much less who was responsible. The Pacific islands were among the last lands colonized by the world's ever expanding human population (and some may be the first to be de-populated as sea levels rise with global warming). Some islands, such as New Zealand, may only have been colonized within the last 600–800 years. For others, such as New Britain, people arrived ~30–35,000 BP. In all instances, bar the large continental islands, and regardless of island size and isolation, the impact of humans on birds was the same — rapid extinction of almost all species. Because many, if not most, islands had evolved endemic species of flightless rails, the total number of extinctions estimated by Steadman is between 1000 and 2000 species (p.319), of which the number of extinct rails lies between 500 and 1600 (p.316). The birds that survived are a vestige of a much richer and diverse avifauna. This is what makes Steadman's account so important.

Steadman teaches us not to assume that what we see on islands today is representative of the avifauna prior to the arrival of people. Not only does this open an interesting discussion on some of the underlying assumptions regarding the evolution and

ecology of island faunas, including MacArthur and Wilson's theory of island equilibrium, but it should instruct us on the value of taking a historical perspective when studying the ecology of communities of plants and animals.

Steadman's account of the Pacific avifauna relies on the palaeontological record. From a number of well-researched sites on a variety of islands, Steadman repeatedly documents the pre-human avifauna, colonization by people, and the following rapid decline and loss of species until few survive.

The evidence of human impact is not the only part of Steadman's account that merits reading and thought. Steadman devotes the final section of the book to a series of chapters on the processes of extinction, dispersal and faunal attenuation, equilibrium and species-area relationships, community ecology and conservation biology. If you read nothing other than the final six chapters and conclusions, you will still be well rewarded. His accounts of these topics are comprehensive, thoughtful and thought provoking.

Largely, *Extinction & Biogeography of Tropical Pacific Birds* is a synthesis of Steadman's extensive palaeontological studies in the Pacific begun in 1984 (p.97), with previous studies in the West Indies and Galapagos Islands. Not all of the Pacific islands are considered in depth. Hawaii, New Zealand, the Galapagos and Easter Island, as well as New Guinea, the Philippines and Indonesian archipelago are excluded. After a general introduction reviewing the Region's geography and geology, flora and fauna, human history, and birds, Steadman then considers in Part II each major island group (e.g., Melanesia, West Polynesia) separately. Part III reviews birds groups (e.g., Megapodes, rails, Passerines, seabirds). The result is a thorough survey of current knowledge of each island group and its avifauna, both as it exists today and how it changed with arrival of humans.

Extinction & Biogeography of Tropical Pacific Birds is thoughtful, easy to read, and thoroughly documented account of the biogeography and extinction of birds

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in the Pacific. So much for noble savages living in harmony with the land. All people, regardless of race, religion or culture, by sheer scale of numbers, if nothing else, displace and deny all other species the resources that they, as species, require for survival. As the human species rockets towards a global population exceeding 9–12 billion in less than 40 years, little will remain of the natural world. The impact of people on the birds of the Pacific will merely be repeated a million-fold over. However, this should not dissuade us from understanding more of nature.

Steadman's concluding chapters are ecology and the way ecologists approach their own discipline are educational and have helped me think about new ways of interpreting my own studies on the ecology of avian communities. *Extinction & Biogeography of Tropical Pacific Birds* is not just a book about the birds of the Pacific; anyone with an interest in the ecology, conservation and management of island biota or on

continents, in conservation reserves and other vegetation remnants, or even in backyards will benefit from reading and thinking about what Steadman has written.

David Steadman is an advocate of a better balance between theory and empirical studies. His analyses of the extinction and biogeography of Pacific island birds shows how important a solid empirical base (even natural history dare I say) is for the development and application of ecological theory. Robert MacArthur, who I had the privilege of working with, knew and understood this better than most and was a major reason why his ideas had such an impact on the growth of ecology as a science through the latter half of the 19th Century. To quote Steadman, "theory and data need each other" (p. 510), and somewhat provocatively, "reality almost always gets in the way of elegance" (p. 511). Nothing demonstrates this better than the history of birds and people on the islands of the Pacific.

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