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Atlas of Bird Distribution in New Zealand 1999–2004

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Atlas of Bird Distribution in New Zealand 1999–2004.—C. J. R. Robertson, P. Hyvönen, M. J. Fraser, and C. R. Pickard. 2007. Ornithological Society of New Zealand, Wellington. i–x + 533 pp., 374 pp. of color maps, 36 text figures, 2 tables, 11 appendices. ISBN 0 9582486 5 6. Hardcover, $125.—This publication summarizes the results of more than five years of field work (1999–2004) contributed by more than 850 volunteers. It is a second-generation atlas; the first-generation *The Atlas of Bird Distribution New Zealand* (Bull et al. 1985) presented the results of field work from 1969 to 1979. As the title suggests, this new atlas is not a breeding bird atlas *per se* (only 4.1% of observations submitted were breeding records), though a small map for each species depicts confirmed breeding. The main emphasis throughout is on records of bird species and habitat. An introductory eight-page chapter describes the field survey work that provided data on 96.4% of the 3,192 ten-kilometer grid squares. Volunteers were asked to fill in data sheets that recorded not only bird species seen or heard but also detailed habitat information. Of the outer islands, data were included only for Chatham and Auckland islands. Also presented in the introductory chapter are descriptions of data processing, various problems encountered during the compilation of the atlas, including species–subspecies controversy (they used "taxon" rather than "species" throughout), and a section on how to use the atlas. A seven-page section provides the descriptive statistics of the survey data (e.g., mean number of taxa per grid square, number of grid squares per taxon), all summarized in 20 figures. Maps occupy 393 pages and are the heart of the book. The technology improvements in map-making since the 1985 atlas have made possible color maps that convey a wealth of information. For example, the typical species map presents the common name of the species, the scientific name, other common names, status (e.g., endemic, introduced, migrant), the total number of grid squares and data sheets expressed as numbers and as percentages of the total data set, a small map showing the results from the 1985 atlas for comparison, facing pages with the South and Stewart islands on one page and the North Island on the other, four color-coded small maps per page for summer, autumn, winter, and spring distribution, and footnotes. The large maps are in color, show topographical landforms, and are overlain by "skeleton" 100-km grid. For finer resolution (to the individual 10-km square), a transparent plastic bookmark is included with the finer subdivisions as an overlay. These maps are a great improvement over the 1985 maps, which were black-and-white with no topographical features included.

In addition to the individual taxon maps, introductory maps illustrate descriptive statistics such as numbers of data sheets per square, distribution of squares surveyed by year, seasonable surveys, number of observers or observer teams per square, and taxa per square (222 taxa for South Island, 223 taxa for North Island, 298 total). Chatham Island bird records are presented on small maps (six taxa per page; total of 72 taxa). A section of 35 maps of all of New Zealand present searched habitat (e.g., subalpine scrub, native forest beech, shrubland, exotic plantation pine, developed farm, and cities–town buildings). An additional nine maps show grouped-habitat birds (e.g., alpine, coastal at sea, coastal rocky beach, native forest). A section on "Data Use Examples" includes maps with examples of comparative studies (e.g., Tui [*Prosthemadera novaeseelandiae*] and Bellbird [*Anthornis melanura*] distribution, the Bellbird in one color, the Tui in another, and both in a third). Another map shows Rock Wren (*Xenicus gilviventris*) and grouped alpine habitat. Two papers are included in the section showing possible uses of the data (e.g., "Can Climate Matching and Habitat Availability Be Used to Predict the Distribution of Introduced Birds?"). A "Biodiversity" section examines the relationships among taxa and habitats, asking the question, "Do certain areas contain habitats of taxa, which make them potentially more important or deserving of recognition when planning or management decisions are made?" Birds were recorded in 36 habitat categories during the atlas surveys, and between 1 and 29 habitats were recorded in individual 10-km grid squares. Twenty-one full-page maps plot in color (green = low to red = high) various relationships (e.g., correlation of taxa with habitats searched per grid square, bird taxa in exotic plantation habitat, distribution of endemic taxa, endangered taxa [nationally critical], and hypothetical prehuman taxa). The "References" section has more than 500 entries and is divided into "General," "Atlas," and "Taxon" references

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and "Classified Summarised Notes." The atlas concludes with 12 appendices and an index. The appendices include various summaries of the atlas data (e.g., summary of taxon records per month [seen, heard, breeding], percentage graphic summary of taxon records per grouped habitat type, and miscellaneous information such as a register of field observers and instructions to contributors). Appendix K provides a summary of changes in distribution between the 1985 atlas and the current one. Also provided are blank grid maps for the scanning and printing of transparencies, and directions for applications to the Ornithological Society of New Zealand for data to further explore the atlas results. When the electronic recompilation of the 1985 atlas results is completed, it will be made available as well (57% of birds from the 1985 atlas showed significant changes in gross distribution).

This atlas is a remarkable work, created largely by volunteers. It is the more remarkable because the Ornithological Society of New Zealand did not receive initial financial support for the project from governmental agencies and because the electronic data files from the 1985 atlas had not been maintained by the Department of Conservation, making electronic comparisons between the two atlas projects problematic. The book is in a large format (21 × 30 cm), the maps are clear and easy to use, and a wealth of both taxon distribution and habitat data are presented. No attempt was made to record numbers of birds present—even abundance estimates on a 1–10–100–1,000 scale would have been beneficial. However, the detailed habitat records are very valuable, and the heuristic value of the atlas should be substantial. The Ornithological Society of New Zealand is to be congratulated for producing this excellent book. Its price may restrict the number of individuals who buy it, but it should be in every academic library and is a must for anyone seriously interested in New Zealand birds or with interests in bird-atlas projects.—William E. Davis, Jr., *Professor Emeritus, Boston University, 23 Knollwood Drive, East Falmouth, Massachusetts 02536, USA. E-mail: wedavis@bu.edu*

Literature Cited

Bull, P. C., P. D. Gaze, and C. J. R. Robertson. 1985. The Atlas of Distribution of New Zealand Birds. Ornithological Society of New Zealand, Wellington.

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