

REVIEWS

Edited by J.M. PENHALLURICK

The Study of Raptor Populations by D.R. Johnson, 1980. Moscow, Idaho: University Press of Idaho. P. 57, fig. 1, table 1, drawings 6. 212 × 270 mm. US\$4.00.

The material for this small book was gathered during the preparation of an advanced course in the ecology of populations of raptors. It is a concise synthesis of the more important aspects of the topic. It draws almost exclusively on the North American literature, and most chapters have a table, with references, summarizing some relevant data on North American raptors including owls. Most of the eleven chapters begin with a few sentences explaining the significance of the subject, followed by a summary of the most salient points in each area. Chapters cover: identification; techniques for estimating numbers; productivity; rates of survival and mortality; causes of mortality; feeding habits; studies of prey; energetics; migration and invasion; sexual dimorphism; and raptors as predators. Each chapter is followed by a good bibliography, although, for brevity, titles of papers are not listed. The desire for brevity also leads on occasions to oversimplification. Inclusion of some of the more important literature on methods of study used with non-raptorial species would have added to the value as a technical guide.

In the chapter dealing with productivity, we were pleased to see a warning against unnecessary visits to nests and of the dangers of trying to obtain incubation times. The chapter on mortality points out that predators of short-lived mammalian prey and insects show little or no egg-shell thinning, while predators of longer-lived prey often show pronounced thinning, an important factor seldom mentioned elsewhere. A good review of Ricklefs' work on rates of growth in birds is given in the chapter on energetics.

There are some errors, omissions and points with which we disagree in the tables and text. Several errors were made when values for Table 2 (pre-fledging mortality) were calculated from Table 1 (clutch size, brood size and fledging success). An important measurement, the percentage of nesting attempts which are successful, is not included in a list of figures related to productivity (p.14). In the chapter on mortality at least two important causes are not mentioned: starvation (although the starvation of nestlings is later mentioned in the chapter on sexual dimorphism); and accidents (e.g. hitting wires, being hit by cars). The inclusion of fratricide in this same chapter suggests that it is a major cause of mortality. Contrary to what is said in the text (pp 13 and 25) the nestlings of raptors frequently do not hatch sequentially because the start of incubation is delayed until several eggs have been laid, and fratricide has not been shown to be important, or even to occur, in many species of raptors. The conclusion that wing-loading increases with body size (p. 54) is not supported by the data in Table 9, except within genera.

Although at times difficult for a reader without some familiarity with the subject to follow, this book is a short, informative introduction to the study of populations of raptors and a concise synthesis of much of the literature on North American raptors. The literature reviewed is generally applicable to studies of Australian raptors and, at the price, this book would be a valuable addition to the libraries of all those interested in the biology of raptors.

Penny and Jerry Olsen

Bird Migration in Africa. Movements Between Six Continents by Kai Curry-Lindahl. 1981. London: Academic Press. 2 vols,

pp 695 plus xxiii repeated in each and xliii of Index in vol. 1, b. & w. pl 32 (in vol. 2), b. & w. drawings 14, maps 255 (in vol. 1). 155 × 235 mm. US\$99.50 (vol. 1) US\$49.50 (vol. 2).

This major work on African bird migration treats both intra- and extra-African migration, updating to some degree the classic treatment by Moreau (1972, *Palaearctic-African Bird Migration Systems*). The two volumes of Curry-Lindahl priced differently and produced apparently to be sold separately, as each contains the full Preface, contents of both volumes, list of tables, list of plates, and "Additional Data" (addendum). The volumes indeed are very different. The larger first volume contains eight sections, but only the first three (total 29 pages on Africa as a Bird Continent, Migration to and from Africa and the Migration of Eurasian Birds within Africa) mainly are text. The remaining sections are a long table with accompanying maps treating Eurasian Migrants to Africa (167 pp), a seven-page discussion with tables of the Timetable of Eurasian Migrants to and from Africa and within Africa, a couple of pages on American Birds found in Africa, eight pages with maps of Non-Palaearctic Seabirds Visiting Africa or occasionally found there, and, after several pages of text, 212 pages of tables and maps of African Migrants within Africa. The long (43 pages) Taxonomic and Subject Indices, treating both volumes, for some reason are paginated separately (in Roman numbers) in volume one and are repeated identically at the end of volume two, except that their pages there are numbered in Arabic as a part of the book. Basically, then, the first volume contains maps and tables documenting (sometimes with, other times without citations) migration patterns and distributions. For anyone thinking of purchasing this one volume, note that the references are contained in the Bibliography, which is in volume two.

The smaller second volume contains all of the plates (photographs of habitats, with some birds); several short tables; three long, multi-paged tables (on habitats of Palaearctic migrants in Africa, behavioural characteristics of some such species in Africa, and some examples of interspecific relations within Africa); and the bulk of the text. Here one finds information on diurnal-nocturnal migration; causation of migration in African birds; ecogeography and distribution; faithfulness to winter quarters; step migrations (to more than one wintering area); shifts in numbers and ranges of Eurasian birds in Africa; ecological and behavioural information; evolutionary problems relating to migration; an all-too brief discussion of physiological factors; oversummering of migrants there; and of course the relation of man and human activities to bird migration, conservation, and extinction in Africa. The overall Bibliography for both volumes and the repeated, forty three pages of Taxonomic and subject indices for both volumes complete the second volume.

It is difficult to compare these volumes with that of Moreau (which was not in fact completed before he died). Certainly they are replete with data, tabular material, and ideas expressed by Moreau in his many works. To be fair, Curry-Lindahl acknowledges his great debt to Moreau (and to James Chapin) for assistance, as well as in using many of Moreau's ideas. The major advance in new data is a chief contribution, for the author has availed himself of literature and connections with workers in African ornithology. Those wishing to keep up to date on some of the migration data being accumulated should consult the more or less annual Bird Report of the East African journal *Scopus*, the *Journal of the East African Natural History Society and National Museum*, which publishes regular ringing reports, and the West African journal *Malimbus* for

records in that area, in addition to the southern African *Ostrich*.

There are many difficulties in studying migration, and even in its definition. Probably under certain circumstances almost every species engages in some local movement at some place and time. It appears that numbers of intra-African "movements" listed by Curry-Lindahl are not worthy of designation as migration: e.g., his Table VII of "probably migratory" birds for which clear evidence is lacking lists year-round territorial species such as barbets and woodpeckers. The young and some adults of such species may *disperse* but surely do not migrate, nor have I seen signs of Kenyan *Indicator minor* or *Pogoniulus chrysoconus* (for which the wrong subspecies is listed) migrating southward (no references are provided in his Table V). Other discrepancies are evident from comparing Curry-Lindahl's data with those provided in the recent and very important article by the late C.W. Benson updating Moreau's findings for African birds migrating in the area south of the Equator (1982, *Ostrich* 53: 31-49). The Benson report cites recent (post-Moreau) literature including important works such as those of Brooke, Brosset, Dowsett, Hanmer and others not mentioned by Curry-Lindahl. This perhaps attests to the difficulty of keeping up with the literature, but it also suggests that there are gaps in the compendium of Curry-Lindahl. The two volumes do contain unpublished data of Curry-Lindahl, especially important information on the Rwanda-Burundi region, which the author promises to make available ultimately in a "sourcebook".

Contributions beyond those of Moreau and others are to be found in the small but important section on step migration, based on various data but chiefly on the massive ringing efforts at Ngulia in southeastern Kenya; in the sections on behaviour and interspecific relations; and in the direct and indirect pleas for conservation of habitats that are noteworthy in Curry-Lindahl's last section. The numerous maps will be found useful generally, but one must realize (see author's discussion of maps) how subjective these are. The Nile Valley is often neglected as a major passageway, and even so far north as Egypt, as a wintering area for numerous species including hawks (e.g. Osprey), shorebirds (e.g. Common Greenshank), swallows (e.g. Sand Martin, which also breeds along the Nile), and warblers (e.g. Willow Warbler).

The author has made a great attempt to bring together old and new data, to re-explain concepts and develop certain ideas, and to ask questions. It seems that his efforts will facilitate much needed further progress in understanding African bird migration (in my experience no continent is more immediately or drastically threatened with massive avifaunal changes). I wish that he or the publishers had opted for a slightly larger page size, which with the weeding out of duplicate parts of the two volumes could have resulted in a single, substantially less expensive, hence more broadly available, work. I cannot advise the purchase of either volume separately, as they are too interdependent; one would want volume one's maps and tables with the more discursive second volume, and vice versa.

Lester L. Short

A New Guide to the Birds of Taiwan by S.R. Severinghaus & K.T. Blackshaw, 1976. Taipei: Mei Ya Publications, Inc., Box 22555, Taipei, Taiwan. Pp xxiv + 222, col. pl 8, many b. & w. drawings, map 1. 137 × 193 mm. NT\$160.00 (US\$4.00). (In English and Chinese).

Avifauna of Taiwan by K. Kobayashi & H. Cho, 1977. Japan: by the authors. Pp 181, many b. & w. photos and drawings, maps 2. 150 × 210 mm. Y1700. (In Japanese).

A Field Guide to the Birds of Taiwan by J.W.F. Chang, 1980. Taiwan: The Asian Ecological Society, Box 843, Biology Dept, Tunghai University. Pp viii + 324, col. ills 390, maps 4 + many distribution maps. 148 × 218 mm. In slipcase, with bird-finding guide, pp32, maps 17. 115 × 143 mm. US\$33.50. (In Chinese, with English summaries in the book).

Birds of Taiwan by K. Kobayashi & H. Cho, 1981. Japan: Maeda Graphic Arts Co. Ltd., 43 Ichinohashi-Nomotocho, Higahiyama-ku, Kyoto. Pp viii + 239, col. pl 16. 157 × 215 mm. Y6000. (Y1800 postage). In slipcase. (In Japanese).

Taiwan is one of the best bird-watching destinations of the Far East, not only for representative species (many endemic) of familiar Oriental groups, but as a focal point for bird migration from Siberia through Japan and north-east China to Indonesia and Australasia. The western half of the island is primarily lowland and contains most of the large human population; while the eastern half, dominated by a central cordillera rising over 3,000 m, contains a diverse topography and range of habitats. We also have a diverse range of books to aid the visiting ornithologist.

The new guide of 1976 by Severinghaus & Blackshaw supersedes the 1970 work of Severinghaus, Kang & Alexander (*A Guide to the Birds of Taiwan*). It provides accounts of 201 species (compared with 117 species in the earlier book), including all resident forms, and a checklist covering 378 species. The text is in parallel Chinese and English with brief field descriptions accompanying black-and-white line drawings. The reproduction process has not been kind to the colour plates in the centre of the book but they are still of value to the user. Also included is a very basic guide to the types of birds to be expected and their normal habitats. The Chinese text also provides phonetic aids. Severinghaus has contained his studies in Taiwan, with a special interest in pheasants (cf. 1980, *Living Bird* 18: 189-209).

Chang started as a field assistant with Severinghaus and has gone on to produce a guide that complements the earlier ones by illustrating nearly all species in colour and providing useful maps of the distribution of resident species and commoner migrants. Some maps of migrants show migration routes. A few errors have crept into the bird portraits but these do not detract from their initial value for identification. The accounts of species are in Chinese but there is an English summary of each bird's status, some perhaps too brief. English-speaking users will certainly want more. The slipcase also contains a small booklet of maps and bird-finding directions, a useful addition to any field guide.

Keisuke Kobayashi, well known for his excellent *Birds of Japan in Natural Colours* (1962, since reprinted), and his colleague, Hidehiko Cho, conducted field studies in Taiwan from 1969 to 1976. Their 1977 paper documents details of species recorded during their series of visits, with black and white photos for many of these. The accounts of species are preceded by a detailed introduction to the zoogeography, ecology, altitudinal distribution and other topics in Taiwanese ornithology. This section includes a discussion of a number of interesting endemics, with reinstatement to specific status of two thrushes: a shortwing *Brachypteryx goodfellowi* (close to *B. montana*) and *Turdus niveiceps* (the northernmost representative of the abundantly polytypic Island Thrush *T. poliocephalus*, ranging south to Samoa and Norfolk Island, and formerly Lord Howe Island). This is a group where splitting could open a taxonomic Pandora's box. The 1981 guide crowns their achievement with concise accounts of species supported by excellently reproduced colour plates illustrating a wide selection of the birds. The elegant binding of this book contrasts with the more solidly practical covers of Chang (with plastic covering supplied) and Severinghaus & Blackshaw.

The ornithology of Taiwan has come a long way since the summary provided by Hachisuka & Udagawa (1950-51, Quart. J. Taiwan Mus. 3: 187-280, 4: 1-180). The 1976 and 1980 guides can be purchased in Taiwan and may provide a useful combination for the field, with the English text of the former complemented by the colour illustrations of the latter. However the two works by Kobayashi & Cho should not be ignored if one wishes to learn more about the avifauna of Taiwan. I welcome all these books and hope that the next step will be a comprehensive handbook.

M.D. Bruce

Birds of Fiji, Tonga and Samoa by Dick Watling, 1982. Wellington, N.Z.: Millwood Press Ltd, 291b Tinakori Rd Thorndon. Pp 176, col. p11 12, many colour and b. & w. photos and sketches, maps 4 plus many distribution maps. 213 x 296 mm. \$39.95.

Guide to Cook Islands Birds by D.T. Holyoak, 1980. The Cook Islands Library and Museum Society, Box 71 Raratonga. Pp. 40. 135 x 215 mm. N.p.g.

The Contribution of Cook's Third Voyage to the Ornithology of the Hawaiian Islands by David G. Medway, 1981. Pacific Science vol. 35, no. 2 (entire number), pp 105-175. Figs 9 (1 coloured).

Watling's important book is more than just a field guide. As evidenced by its size, it is also a handbook which should stimulate a wider interest in the birds of this familiar part of the tropical Pacific. By collaborating with Fergus Clunie of the Fiji Museum and other colleagues, plus comprehensively reviewing the literature (his bibliography contains 237 titles), the author has written a valuable contribution to the ornithology of the Pacific. The introductory part covers useful chapters on the ornithological history of the region, the composition of the avifauna, the ecological isolation of closely related land birds, breeding, moult and conservation. A special feature on the Fiji region follows, in which the author's concern for the future of the region is most apparent. The inclusion of colour plates by Chloe Talbot-Kelly provides far more elegant and accurate portraits of the birds than was possible in the larger coverage of the 1976 *South Pacific Birds* by J.E. du Pont (cf. Emu 79: 92). A further interesting aspect of the illustrations is the selection of several paintings by William Belcher, made in the period of 1924 - 1935 and now in the Fiji Museum. The paintings are well reproduced on fine quality paper, as are the text pages of this solidly bound book.

The accounts of species are separated into land birds (eighty-one species) and sea birds (forty-seven species, including waders). Each account covers flight, voice, breeding, food and habitat, and sometimes includes flight silhouettes and sketches

of food items, nests and other subjects. For polytypic species the subspecies are noted and are sometimes added on the distribution maps. The listing of local names should also be of value to the resident reader. The appendices include a glossary and a checklist of 144 species. The relatively large number of pelagic sea birds (including three species of albatross) and waders recorded is a good indication of the extensive field work of recent years. The increased knowledge of endemic land birds is evidenced by new information on rare and vulnerable species and changes of treatment at the species level. The introduced bird fauna unexpectedly includes the Australian Magpie *Gymnorhina tibicen*. I hope the author's desire to stimulate further research in this region meets with success. It is a book that belongs in all ornithological reference libraries, particularly if one is interested in the Pacific area.

The Cook Islands occupy a large slice of the tropical Pacific between Tonga and French Polynesia. This little book is the culmination of Holyoak's study of the bird fauna, including a survey of a number of islands in 1973. The survey yielded seven birds unknown to science, including two (now three) species (cf. Holyoak, 1974, Bull. Brit. Orn. Club 94: 145-50): the Atiu Swiftlet *Aerodromus sawtelli*, Mangaia Kingfisher *Halcyon ruficollaris* and Cook Islands Warbler *Acrocephalus kerearako*. They bring the number of landbirds to fifteen (including seven endemics and three introduced species). The total of fifty-five species includes fourteen breeding seabirds.

The guide is designed for the visitor to the Cook Islands and has introductory material that covers advice to bird watchers, a summary of the status of breeding birds and a note on conservation. The accounts of species are concise and clear and reflect the extensive experience of the author with birds of the tropical Pacific region. In the centre are five pages of colour photos, mostly of birds in the field, one (the Cook Islands Fruit Dove *Ptilinopus rarotongensis*) handheld, and one of a painting of the three forms of kingfisher discovered by the author. The book concludes with a useful bibliography. In all, it is a valuable contribution to the study of Pacific birds.

The ornithological aspects of Cook's voyages have been touched on many times, but thanks to Medway's growing series of papers, we may now have the most definitive studies available in the more than two centuries that have elapsed since the events. From my own historical studies of Pacific ornithology, including Hawaii, I can readily appreciate the breadth of coverage of the material. It includes the accounts of Anderson, Clerke, King & Ellis, the three inland excursions, the specimens collected, the role of Bullock's Museum, the Ellis & Webber bird drawings, the descriptions based on the 1778-79 material (the main section, pp 133-67), a bibliography of 147 titles and a separate index.

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