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Edited by G. W. JOHNSTONE

BOOKS

Birds of My Kalam Country by Ian Saem Majnep and Ralph Bulmer, 1977. Auckland: Auckland University Press; and Oxford University Press. Pp 219, b. & w. figs. 18, b. & w. photos 26, maps 4, \$A25.90.

The role played by the New Guinean people in the development of ornithology and other field sciences in their own homeland is scarcely appreciated outside New Guinea. Visiting naturalists from Wallace onward have relied heavily on the local inhabitants for an introduction to flora and fauna, not only in terms of what species are present but also for ecological information on their distribution and behaviour. So detailed and knowledgeable is the Melanesian folklore of natural history that a number of recent articles on the subject have given it international attention (several papers by Bulmer and J. M. Diamond, 1966, Science, NY, 151: 1102-4). However, the practice of most scientific authors has been to extract information from this body of folklore and incorporate it into the framework of their own research.

Birds of My Kalam Country takes a more anthropological approach by presenting folklore as one finds it, in a cultural setting. The authors are concerned only with the birds of the Upper Kaironk Valley and neighbouring territory in the highlands of Papua New Guinea. Here Ian Saem Majnep was born and grew up during the early period of Western contact. At that time the Kaironk Valley was the site of a number of anthropological and linguistic studies, including the research of Bulmer. This book is essentially Majnep's account of the highland birds, their uses by the local people (mostly as sources of meat and plumes) and stories involving birds. Bulmer has written and edited the text, assigned English and scientific names to species, and provided supplementary information.

The book begins with an introductory section on the customs of the Kalam people and the geography of the Kaironk Valley. The next section includes numerous chapters on the birds themselves. Nearly all of the 140 species of Upper Kaironk birds are known to the Kalam people and have names in the local language. The birds are categorized into groupings of cultural or ecological significance, necessitating such intriguing chapter headings as: 'Birds which men's souls can turn into: the Lories and other local parrots' and 'The families of birds that feed on gwng (sic) Pipturus fruit: certain Honeyeaters, Berrypeckers and Birds of Paradise, and the Bowerbird.' These accounts present much new information on the habits and ecology of many species, for example the migratory behaviour, courtship display, nest and the special predators of the Mountain Pigeon Gymnophaps albertisii, Meyer's Goshawk Accipter meyerianus and the Black-mantled Goshawk melanochlamys. Fortunately, Majnep and Bulmer have been careful to distinguish first-hand observations from hearsay and to point out differences of opinion between local authorities. The remaining section narrates six Kalam stories about birds. such as 'The Dance Festival of the Birds and Animals' and 'The Cassowary Sister'.

The book is illustrated with black and white photographs by Bulmer and C. Healey's drawings in pen and ink. Though not technically first rate, Healey's successful attempt to characterize the birds treated in the text makes these drawings particularly appropriate for the book. Birds of My Kalam Country gives a very readable, fascinating and specific introduction to New Guinean birds and to New Guineans. It can be recommended to readers ignorant of New Guinean birds as well as to those familiar with the avifauna. Its only disappoint-

ing feature is the high price, which will keep this book off the shelves of many who would otherwise be eager to buy a copy.

Thane K. Pratt

Vanishing Birds: their natural history and conservation by Tim Halliday, 1978. Melbourne: Hutchinson. Pp 296, col. pll 16, b. & w. figs 55. 160×240 mm. \$A13.95.

Endangered Birds: management techniques for preserving threatened species edited by Stanley A. Temple, 1977. Madison, Wisconsin: Univ. Wisc. Press. Pp xxiii + 466, b. & w. pll 31, b. & w. figs 23. 160×235 mm. \$US9.50.

Bird Conservation in Europe by Stanley Cramp, 1977. London: HMSO. Pp v+58, b. & w. 25, b. & w. figs 4. $156 \times mm$. \$A5.00; £2.25.

Australian Endangered Species: mammals, birds and reptiles by Derrick Ovington, 1978. Stanmore: Cassell. Pp 183, col. pll 76, b. & w. pll 4, b. & w. figs 3, 220×300 mm. \$A19.95.

The Status of Endangered Australasian Wildlife edited by M. J. Tyler, 1979. Adelaide: R. zool. Soc. SA. Pp ix + 210, b. & w. pll 23, b. & w. figs 26. 175 × 250 mm. \$A6.65

Increasing concern for conservation of birds and other wildlife is reflected in the number of books being published on the subject. These five books demonstrate the variety of responses to the problem, which range, on the one hand, from Halliday's evolutionary and global assessment to Tyler's detailed inventory of the Australasian position and, on the other, from the historical and social perspectives of Ovington to the technical solutions in Temple's volume. Extinction, the theme of the books, is a natural evolutionary process but its accelerating rate in historical times has coincided with the rapid environmental changes wrought by European man. Some species have been reduced to such low numbers by factors including destruction of habitat, human exploitation or increased predation by man and by animals introduced by man that the surviving populations become vulnerable to new diseases and natural catastrophes. The final blow that can erase a threatened species may be a rare event, such as the volcanic eruption that destroyed the last Great Auks, or as common as the storm that swept away the entire population of the Laysan Honeycreeper in 1903.

The first measures to conserve threatened species have involved the creation of reserves to preserve habitat, the protection of species by legislation and education of the public. These passive measures are seldom enough, however, and Halliday (in Tyler) estimates that populations of more than half the species listed in the Red Data Book continue to decline. Active measures are needed to reverse such trends of decline. This is only a short-term solution but it involves management of the populations to increase fecundity and reduce mortality and, of course, such techniques can work only if enough scientific data can be collected on the biology of the species. All five books emphasize the need for more fundamental research on threatened species.

Halliday, an ethologist specializing in amphibia, and bird artist, has two main aims: to learn from the causes of past extinctions how to avoid others in future and to make some extinct species live in the minds of readers by word and picture. The stories of the demise of the Dodo, Great Auk and Pink-eared Duck and a survey of extinct and endangered birds of North America, Europe, New Zealand and Australia show that there

is no easy way to predict which birds are specially vulnerable. For example, the Passenger Pigeon, said to have been the most prolific of all birds, was exterminated in a short time, whereas the Brown Kiwi, which one might expect to be most vulnerable to introduced predators, appears to be in good fettle, in con-

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trast to other New Zealand endemics.

Halliday's main theme is that passive conservation alone will not prevent further extinctions; active management is needed to maintain viable populations. He rightly urges professional ornithologists to devote more effort to the study of threatened species to obtain the fundamental biological information. He also makes a special contribution by bringing some of these long-extinct species alive for the reader by fascinating descriptions and excellent paintings and drawings. It is sad to know that these beautiful and exotic creatures have gone.

His achievement is tempered by some gaps and errors. For example, maps of all faunal regions are shown inside both covers but he omits consideration of extinct and threatened species in the Ethiopian, Neotropical and Oriental regions, though they are by far the most numerous in the Red Data Book. The section on Australia is marred by annoying errors: that the Ground Parrot is now extinct in Queensland (p. 237); that the Orange-bellied Parrot 'has not been seen in Victoria this century' (p. 239); that 'it is now thought that there are less than 150' Paradise Parrots, whereas there has been no confirmed sighting since 1922; that the Hooded Parrot 'is an extremely rare inhabitant of Arnhem Land in Western (sic) Australia' (p. 239). Such carelessness occurs elsewhere too but in spite of it the general reader will find the book worthwhile, chiefly for its strong evolutionary and ecological view, its clear thinking and its readability.

Techniques for actively managing remnant populations are still at the experimental stage and as diverse as the species involved. In 1977 an international meeting in the USA reviewed and evaluated achievements in this field and Temple has edited the proceedings, fifty-one highly condensed papers dealing with a diversity of species, problems and solutions. There are some common approaches and the book is organized accordingly. Reproduction of threatened species may be improved by more and better nest sites; survival, by reducing competition, predation, parasitism and disease, and even by feeding in winter. Competitors for nest sites and parasites of nests may be removed. Many practices are subtle and ingenious and can create problems: cross-fostering, incubation of eggs and rearing of young of threatened species by another can lead to imprinting on foster parents. The last resort is to breed endangered species in captivity, which creates problems of inbreeding and release into the wild; techniques adopted from falconry seems successful in the latter regard. Temple reviews the potential for saving species by modifying their behaviour so that they can make 'tradition shifts', to exploit new habitats, nest sites, food and migratory routes when old niches have gone. This seems a promising approach but the whole matter is still experimental and all ornithologists involved in conservation ought to read the book.

Cramp was commissioned by the European Economic Community to report on changes in the status of Europe's birds and to recommend action. Birds of prey and of wetlands seem most threatened and Cramp recommends that more habitat ought to be preserved. Europeans have differing attitudes to birds: in the north songbirds are completely protected whereas Italians shoot about 150 million a year and the French, another six to ten. Cramp advocates uniform legislation to protect them and recently this has been largely adopted in the Community, though the French still insist on shooting the poor Skylark

among others.

Ovington, Director of Australian National Parks and Wildlife Service, does not state the aim of his beautifully produced book but seems to try to explain, evolutionally, ecologically and historically, what has determined the chief problems in Australian conservation. The book has three parts: the scenario for extinction; endangered species; and strategies

and priorities for the future. The section on endangered species is an abbreviated version of leaflets issued by the Service and is weak, with no new information, no references and no captions to the plates. Someone interested in the endangered species would do better to get the leaflets—cheaper, with references and a coloured photograph of the habitat. However, the paintings and numerous coloured photographs, often irrelevant, will probably attract uncommitted people, who will benefit from the rest of the book. Other virtues are a chronology of significant events affecting Australian wildlife and a copy of the Convention on International Trade in Endangered Species.

For its centenary (1978), the Royal Zoological Society of South Australia held a meeting on The Status of Endangered Australasian Wildlife' to which it invited experts from Papua New Guinea, New Zealand and Australia. The proceedings have been edited by M. J. Tyler (Univ. of Adelaide) and published promptly. Dr C. W. Holloway opened the sessions with an outline of aims and program of the International Union for the Conservation of Nature and Natural Resources and a description of the Red Data Book and its categories of endangered, vulnerable and rare species. There followed papers on the status of kangaroos, carnivorous marsupials. rodents, bats, mammals of New Guinea, parrots, songbirds, the Noisy Scrub-bird, waterfowl, Papuasian and New Zealand birds. The standards of all are high. They contain many new data and the volume may live up to the claim in the introduction that it is definitive. It repeatedly shows, however, that we are abysmally ignorant of the status of all but a few species. We do not know the range, abundance and population trends of most species. Some authors ought to have realized that status cannot be deduced simply from range or changes in range but must be backed by results of censusing. If this cannot be done, subjective assessments, as described by G. T. Smith for parrots, can give reasonably accurate information. He scored each species on aspects of its demography and ecology and thus calculated an index of survival. Measures for conservation in Australia and New Guinea may be inappropriate because we know so little about the status of species. In New Zealand, however, the tragic history of extinctions of endemic forms has forced the Wildlife Service to pioneer successful programs to preserve remaining populations. Fundamentally, the technique is to remove species, threatened on the mainland, to refuges on islands free from mammalian predators. This has saved the North Island Saddle-back, the only species of bird so far saved from extinction by man. We in Australia could learn much from the New Zealanders about saving and managing threatened species. Although the book has a few literals, it is well produced, very reasonably priced and an important contribution.

R. A. Zann

Bird Families of the World edited by C. J. O. Harrison, 1978. Oxford: Elsevier-Phaidon. Pp 264, col. ills over 400. 240×315 mm. \$A25.95.

Over forty ornithologists, seven from Australasia, have contributed to this account of the birds of the world, described family by family. Groups known only from fossils are included. The sequence is based on Peters, with some discussion of possible alternatives.

The text is precise and factual, roughly one page being devoted to each family. For monogeneric families with few species the treatment is excellent. However, it becomes less satisfactory for families that contain many seemingly diverse species; the policy of giving roughly equal space to each family then requires generalization and the value of the information diminishes as a result. In some, the treatment is actually misleading. For example, the family Procellariidae is interpreted as 'Shearwaters' and the description of the family is confined to information about shearwaters. Only the first sentence mentions that the family 'also includes the typical petrels' but the reader is not told that they present a far more diverse and fascinating assemblage of species than do the shearwaters. A

more serious criticism is the absence of any bibliography either of source material or for further reading.

Almost every page has at least one coloured illustration by Ad. Cameron; many depict several species. The immense range of variation among birds in their appearance and their behaviour is made vividly apparent. It is unfortunate that the colours of many of the birds known to this reviewer appear washed out, for example the Malleefowl, Banded Stilt and Tawny Frogmouth. Others are simply incorrect; the Brown Thornbill is depicted as grass-green; the crimson of the Crimson Chat appears rufous and the scarlet of the Scarlet Robin, vermilion. The Superb Lyrebird, displaying on page 186, was drawn from a specimen with badly damaged tail feathers and the caption to the illustration is inaccurate. Another serious deficiency is that, though the captions identify the species shown, they do not indicate to which families they belong. As with so many 'publisher's books' the marrying of text with illustrations has not been a prime concern.

Anyone who seriously seeks information from the text of this publication will often be rewarded but will regret the absence of references; anyone interested in birds and their lives should enjoy the illustrations, after allowing for the paleness and inaccuracy of the colours.

Rosemary Balmford

Les Oiseaux de Chine, de Mongolie et de Corée: non passereaux by R. D. Étchécopar & François Hüe, 1978. Papeete, Tahiti: Les Editions du Pacifique. Pp 586, col. pll 22, b. & w. pll 2. 247×165 mm. 385 Fr. Francs.

Distributional List of Chinese Birds by Cheng Tso-Hsin, 2nd edition, 1976 (in Chinese). Peking: Science Press. Pp xvii+1218. 210×148 mm. Price not known (about \$A10.00).

The first work is the third by Étchécopar and Hüe in a series dealing with the avifauna of the desert zones of the southern Palaearctic, the first two being Oiseaux d'Afrique du Nord (1964) and Oiseaux du Proche et du Moyen-Orient (1970). The present volume covers the non-passerines only, a second volume on the passerines being in preparation.

The present work differs from the first two in the series in that neither author had ever visited the region treated, though Etchécopar at least had journeyed to several neighbouring countries, thereby gaining first-hand experience of many of the species. Difficulties that beset the compilation included the nature of many of the previous references (*... trop anciens... ou incomplets... ou illisibles pour celui qui n'est pas

of incomplets... Of inisples pour cettin qui it est pas sinologue..."), the cutting off of contacts within China by the Revolution, the closing down of the original publishing house and, tragically, the death of François Hüe in 1972. Nevertheless and (as the authors admit) notwithstanding its lack of documentary richness, the work emerges as a most creditable synopsis of the avifauna of the Chinese region, filling a long-felt need.

The volume is well-bound and admirably laid out, though its thickness of 60 mm makes it a book more for the study than the field. A key to the species is provided at the beginning of each family (or even tribe). The species-accounts themselves deal succinctly with identification (including field-characters), behaviour, nidification (if breeding in the region), distribution, subspecies and extralimital occurrence. Besides the scientific name, the French and English names of each species are given. For most species, a simple distribution map is also provided. In addition, there are numerous excellent line-drawings of the birds throughout the text, twenty-two fair to very good colour plates and two half-tone plates.

The scientific nomenclature is generally so up to date that the few exceptions are conspicuous, e.g. Podiceps instead of Tachybaptus for the dabchicks and Chalcites instead of Chrysococcyx for the bronze-cuckoos. These exceptions, however, may merely reflect the author's personal views. Similarly, the few typographical errors are rendered the more

conspicuous by the general excellence of the production; they include jouvi for jouvi (p. 47), magnifica for magnificus (p. 59), nycroca for nyroca (p. 65), Mess for Mees (p. 149), grebnitskü for grebnitskii (p. 184) and Callocalia for Collocalia (p. 500). Phaethon is spelt Phaéton (p. 128) and on page 397 Gygis alba is correctly referred to as G. candida. A more serious error occurs on Plate 19, where the number against the figures of the bee-eaters Merops philippinus and M. leschenaulti need to be transposed to agree with the caption.

The volume ends with a short but highly informative gazetteer, and maps of the region are printed on the endpapers. There is no list of references, this being promised for volume

two.

This work has little direct relevance to Australian ornithology, beyond perhaps the useful accounts of eastern Asian waders and shorebirds, but it is worth having simply for its intrinsic value. The overwhelming wealth and fascination of the Chinese avifauna and the inaccessibility and romance of the region itself ought to be reasons enough for one to procure the

work. I recommend it highly.

The second work under review is by Professor Cheng Tso-Hsin, director of the ornithological division of the Peking Zoological Research Institute, Chinese Academy of Sciences, and one of the fewer than 500 ornithologists in China today (see Ibis 121: 409-410). Apart from treating the passerines as well as the non-passerines, the work differs from that of Étchécopar and Hüe in dealing only with the status, distribution and subspecific taxonomy of the species, and does not cover Mongolia and Korea. The main text, the speciesaccounts, is largely in Chinese, with the scientific and English names given in Roman script. Also in English is a tabulation of species-distribution by subregions (pp 970-1070), the bibliography (except for Chinese publications) and the indexes of English and scientific names. On pages 1121 and 1122 appears a useful summary in English of the book's organization and purpose. For most species treated, distribution maps are given in the text; where these differ from those of Étchécopar and Hüe, the former are presumably the more accurate, especially as Cheng gives point-distributions of specimens rather than the blanket zones of distribution given by the French authors. Like the previous volume, Cheng's book is well-bound and laid out, though only slightly less cumbersome.

One should not be discouraged by the amount of Chinese text in this book. Much can be gained from it without a knowledge of that language and I consider it indispensable to

anyone studying the ornithology of Asia.

Shane Parker

Respiratory Function in Birds, Adult and Embryonic edited by J. Piiper, 1978. Berlin: Springer-Verlag. Pp 309, figs 147. 170×250 mm. \$A25.00

This volume in a series (Proceedings in Life Sciences) contains the papers presented at the Satellite Symposium of the 27th International Congress of Physiological Sciences, Paris 1977, held at the Max-Planck-Institut for Experimental Medicine, Gottingen (FRG). Because most leading researchers in this field attended, it was well covered. Many of the articles are minireviews so that interested non-specialists can gain much insight into this important topic.

The volume is arranged in five major sessions. Session I is concerned with evolutionary aspects, from reptiles to birds and mammals. Six papers cover: general morphological principles of amniotic lungs, ventilation mechanisms, lung surfactant and lining, intrapulmonary carbon dioxide-sensitive receptors, comparative circulation and mechanisms controlling oxygen affinity of bird and reptile blood.

Session II deals with adjustments to changes in the availability of, and requirement for, oxygen. Eight papers range from effects of hypoxia on heat activity in diving, flying and land birds, cardiopulmonary responses to acute hypoxia, oxy-

gen transport during altitude acclimatization and diving

reflexes and respiration during flight.

Session III covers structure and function of the avian respiratory system. Six papers deal with the structure of intrapulmonary vasculature, the capillary zone of avian tertiary bronchus, ventilatory 133Xenon distribution studies, diffusion in avian pulmonary gas exchange, airway resistance and origin of carbon dioxide in caudal air sacs.

Session IV is concerned with control of ventilation: intrapulmonary carbon dioxide sensitivity and respiratory centres. Two of the eight papers in this session are related to neuronal mechanisms of thermal panting.

Session V is entitled Respiration of the embryo. This is the largest section with eleven papers covering in vivo studies of conductances of oxygen, carbon dioxide and water vapour in the avian egg, the size and number of pores in egg-shells, comparative ontogeny of embryonal metabolism, development of avian respiratory and circulatory systems, embryonic haemoglobin, heart rate and gaseous transfer in the chorioallantois. Included here are two papers of regional interest: the Kiwi, a case of compensating divergences from allometric predictions, by W. A. Calder and Gas conductance in the egg-shell of the mound-building brush turkey, by R. S. Seymour and H. Rahn.

The volume concludes with the names and addresses of all participants and a limited index. Well presented, with numerous excellent line drawnings, photomicrographs and scanning and transmission electronmicrographs, this volume is of considerable value to all serious students of avian

respiratory physiology.

Xenia Dennett

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