

## REVIEWS

Edited by G. W. JOHNSTONE

### BOOKS

**Biogeography and Ecology in Tasmania** edited by W. D. Williams, 1974. Monographiae Biologicae, Vol. 25. The Hague: Junk. Pp x + 498 + coloured map, b. & w. pl 34, col. pl. 1, figs 88, tables 48. 162 x 248 mm. (Dfl140). \$A51.80.

This finely produced book contains contributions on various aspects of geography and ecology. The sixteen chapters range over geomorphology, limnology, various invertebrate groups, freshwater fish, amphibians, reptiles, mammals and Aborigines. The two chapters with ornithological content are 'Some Problems Associated with the Avifauna' by D. G. Thomas and 'Conservation' by P. S. Lake.

Thomas compares the avifauna with that of mainland Australia, applying the principles of MacArthur and Wilson (1967, *The Theory of Island Biogeography*) and trying to show that impoverishment is due more to ecological factors than to the barrier effect of Bass Strait. The paper has seven sections and deals mostly with theoretical hypotheses without many supporting data from fieldwork.

In the first two sections ('Difficulties of dispersal' and 'Species: Area effects') the principle that the number of breeding species of land and freshwater birds increases with area is shown to hold for Tasmania and some of its offshore islands. Although this can be explained by ecological factors there is little published information to suggest as the author does that such factors act to limit mainland species attempting to colonize an island.

Evidence for continuous immigration into Tasmania, as presented, is unconvincing. If it happened, it would prevent the development of subspecies (twenty-seven claimed for Tasmania) through constant mixing of mainland and island populations. Thomas points out that the result of comparing resident and migratory birds breeding regularly in southern Victoria and in Tasmania (Table 12.1) is remarkably close to that calculated by Lack (1969, *Bird Study* 16: 193-209) for Ireland's avifauna compared with Britain's. Like Lack, he argues that if barriers were the main reason for impoverishment of island avifaunas, migrants (better able to overcome barriers) ought to be better represented on islands than non-migrants. Table 12.2 tries to show that migrants are poor colonists and Table 12.3 that impoverishment is not caused solely by barriers. No evidence is given that colonization occurred across Bass Strait after the Pleistocene land bridges disappeared.

Tables 12.2 and 12.3, which also try to show that immigration is continuous, are unacceptable: of thirty-eight Victorian species claimed as resident (normally sedentary) nine cannot be called residents of Victoria and eighteen others (raptors, waders, waterbirds, parrots) are nomadic or sporadic and do not belong to either table. Of the remaining eleven, five are not proper evidence (already established from escaped birds, doubtful or single records, etc.) and one (Brown-headed Honeyeater) is a mistake in the Tasmanian list. Only five rightfully belong in Table 12.3! With the migratory Yellow-faced Honeyeater transferred to Table 12.2 and

the omission of Masked and White-breasted Woodswallows (known only from King Island), that table has eight species versus five in Table 12.3 and there could be a better case for migrants attempting to colonize Tasmania than for Victorian residents.

Indices of diversity (Table 12.6) for sclerophyll forest near Hobart and for dry sclerophyll forest near Campbelltown, Tasmania, and Sydney, NSW, are similar. Therefore 'the Tasmanian habitats are as rich in species at any single point as are comparable habitats of continental Australia' and 'Tasmania, then, has an impoverished but saturated avifauna that has reached a dynamic state of equilibrium'.

The data given are inadequate for such statements. Many more Tasmanian dry sclerophyll sites need to be compared with sites in southern Victoria and south-eastern New South Wales rather than on the floristically atypical Sydney sandstone. Similar indices of diversity imply equilibrium but not necessarily saturation. Also, no information is given for any Tasmanian habitat other than dry sclerophyll.

The sections on 'Immigration and extinction', 'Reasons for failure to colonize' and 'Introduced species', examining the MacArthur-Wilson equilibrium model for the biota of an island and the apparent contradiction between such a dynamic equilibrium and the ecologically stable island community of Lack, are weak. There is no good evidence to show that the theoretical carrying capacity factor K for an invader in Tasmania is small. As Thomas admits, introduced birds (Blackbird, Laughing Kookaburra, Superb Lyrebird and also the European Goldfinch and Greenfinch) have become established. Why, then, have Victorian residents with similar ecological requirements (Willie Wagtail, White-winged Chough, Magpie-Lark) not become established if there is continuous immigration? Although the Tasmanian degree of endemism is not unusual for a large island near a source on a world-wide basis (Fig. 12.3), it does appear to be high for a temperate island and this point might have been worth considering.

The section on 'Changes following colonization' considers behavioural and morphological changes that have taken place in the avifauna since Tasmania's isolation, with a discussion of the application of Bergman's rule. The differences between Tasmanian and mainland subspecies only strengthen the case against a continuous influx from mainland populations.

The absence from Tasmania of the bark-feeding treecreepers, *Sittella* and *Shrike-tit* is discussed. Because Tasmanian bark-feeding species obtain much of their food elsewhere and the White-throated Treecreeper seems to have been lost since the early 1900s, it would be more interesting to know whether this niche fully exists in Tasmania than to speculate on exclusion of mainland species by endemics.

The example given of the Green Rosella excluding other species on Maria Island is false and does not illustrate Lack's idea of fewer species on islands in a broader range of niches excluding mainland specialists. The Noisy Miner hardly competes with the Green Rosella and is present on Maria Island in small numbers. The

Eastern Rosella has become established alongside the Green Rosella after recent introduction, which with its absence from apparently suitable habitat on Flinders Island is also evidence that water crossings present barriers to land birds.

The final section ('Breeding adaptations') is at best superficial. It contributes little to our understanding of the biogeography or ecology of Tasmanian birds.

The main argument of this paper for exclusion of mainland species from Tasmania on ecological grounds is unconvincing. The paper might have been more valuable had some of the data been more critically examined. More needs to be known, too, about the equivalence of ecological niches in Tasmania to those on the mainland and the extent to which they are occupied by endemics.

Lake's chapter gives a concise treatment of conservation in Tasmania, including Macquarie Island, with a brief historical survey and thorough coverage of existing legislation and conserved land. The four pages dealing specifically with birds give a brief account of nineteen Tasmanian species and mention ten others from Macquarie Island. Another four species are treated in the section on 'Introduced fauna'.

The state of affairs in Tasmania is well covered though some comment could have been made on the pressure on cormorants by amateur freshwater fishermen and on Peregrines by pigeon fanciers. The apparent elimination of the Stubble Quail, perhaps due to changes of habitat, and the fate of the Cat Island gannetry are interesting. Open seasons on the Black Swan and the Yellow Wattlebird are no longer allowed and because the breeding habitat of the Forty-spotted Pardalote appears to be adequately protected now, further reservation of land for its conservation may not be worthwhile. It may be approaching extinction naturally. The Orange-bellied Parrot, apparently breeding only in the coastal west and south-west, is not mentioned, though conservation measures are needed. The Beautiful Firetail is widespread and fairly common and hardly justifies inclusion.

It seems that immediate action is needed in two regions: urgent and adequate reservation of dry sclerophyll forest in the eastern half of the State, the richest habitat for birds and currently under severe pressure from the woodchip industry and agricultural interests; and protection of coastal areas and offshore islands in western and south-western Tasmania to safeguard rare species and colonies of seabirds that are mostly unmapped or unknown.

D. R. Milledge

**Biogeography and Ecology in New Zealand** edited by G. Kuschel, 1975. Monographiae Biologicae, Vol. 27. The Hague: Junk. Pp xvi + 689, b. & w. pll 98, figs 134, tables 22. 165 x 248 mm. Dfl 200 (about \$A65.00).

It would have been helpful if, in the Introduction to this volume, its editor had defined biogeography and ecology, because the topic of biogeography seems to be treated rather loosely. 'New Zealand region' is used repeatedly to emphasize biogeographically the origins of the New Zealand flora and fauna and their differences from those of other areas, arising in particular from past changes in the physical conditions. Less emphasis is placed on discussing affinities with other areas; the use of zoogeography, another subject, out of context, is questionable for this purpose. A biogeographical region may be established only after the average composition of the flora and fauna of a division of the earth has been identified as being different from elsewhere (Encycl.

Brit., 1974 ed.); separate floristic and faunal regions are used, however, to study distributions of plants and animals separately. The term 'New Zealand region' belongs to botanists, starting with Cheeseman (cf. Allan 1961, Flora of New Zealand). For the study of animal distribution, New Zealand is normally put in an Australasian zoogeographic region or with Australia in Notogaea. Because this book does not give quantitative data when analysing the biota of Australia, New Zealand and Patagonia, reference to a separate New Zealand biogeographical region is unsound; it would have been better at this stage if discussion had been confined to New Zealand as a political unit. Most of the ecological studies reported in this work do not help our understanding of the origin and isolation of communities but discuss the flora and fauna in relation to the general environment (climate, soils, marine conditions and lakes). Except in the reports on insects and spiders, there is little to show how individual species and communities of animals (including birds) can become isolated and segregated, in particular by specializing on different kinds of vegetation.

The first chapter by C. A. Fleming discusses 'The geological history of New Zealand and its biota', to establish the theme of biogeography. This chapter does not elaborate the debatable concept of a New Zealand region. It mentions the diverse origins of the New Zealand flora and fauna by distinguishing six elements: Malayo-Pacific (including Indo-Pacific, used synonymously elsewhere); austral (mostly Fuegian and Antarctic); endemic; holarctic; cosmopolitan; and Australian. It is sometimes difficult to distinguish Australian from austral and Malayo-Pacific elements. A table or chart would have been useful to summarize elements dominant at different times, as indicated in the illustrations. Chapters on climate, soils and flora follow. For consistency accounts of limnology and the marine environment ought to have been grouped with these but are placed with chapters about fauna later in the book. The chapter on soils describes the loss of fertility caused by human work; so there is no need to mention this again in a later chapter among irrelevant information about philology, ceramics and construction of boats. The chapters on fauna include 'The amphibians, reptiles, birds and mammals' (P. C. Bull and A. H. Whitaker), 'The Kiwi' (B. Reid and G. R. Williams) and others on the Tuatara, land snails, spiders and harvestmen, terrestrial insects and insects in relation to plants. The final chapter, 'The influence of man on the biota' (J. T. Salmon), describes the damage done by man and the measures needed to repair it.

Remarks on birds concentrate upon biogeography rather than ecology. They mention the Australian element as dominant but the relationships of kiwis to tinamous and rails is mentioned. Lack of attention to seabirds surprises, considering the alleged austral origin of many species. Endemism among landbirds is discussed to show the difference from elsewhere; there is not so much endemism among sea- and shore-birds. Comparison is made between numbers of species in New Zealand and Tasmania, to illustrate this. There are short discussions about plants and plant associations used by birds.

Four other chapters examine aspects of ecology likely to interest the ornithologist, one mentioning predation on a carnivorous land snail by introduced thrushes *Turdus philomelos* and *T. merula*, which is judged to be not so serious as that of wild pigs. This prompts the thought that allies of this mollusc have survived in south-eastern Australia and New Caledonia

in the presence of the White's Thrush *Zoothera dauma* and Island Thrush *Turdus poliocephalus*.

Indirectly, the accounts about insects and spiders emphasize that ornithologists must identify the species of arthropods mostly predated by birds in the relict indigenous forest as soon as possible and then make sure that they remain abundant. Under the unsuitable heading 'Relationships', biogeographical elements are discussed. Although quite diverse compared with insect faunas elsewhere, that of New Zealand is small and lacks some large and important groups such as occur, for example, in Australia. Though only three orders are absent, the lists of identified species and families contain 1.2 per cent and forty-five per cent respectively of those known for the whole world (comparable figures for Australia are 6.6% and 73%); among families likely to be predated by forest birds (Lepidoptera, Coleoptera, Diptera and Psocoptera) the position is similar. Also, many insects depend on particular plants and communities, in particular *Nothofagus*, *Coprosma*, *Pittosporum*, beds of deep undisturbed litter on the forest floor and debris under the rotten bark of trees in native forest. Insects of litter and bark include minute flies (sciarids, chironomids, empids and mycetophilids), which I have seen the Grey Warbler *Gerygone igata* eating. Although the article on spiders states that no spider has yet been found in the forest canopy, a haunt of insectivorous and other birds, they are reported to occur there in other countries, including Australia.

Though not in itself important, an irritating aspect is that the captions to illustrations are inconsistent; photographs are labelled as figures in some chapters and as plates in others. Several photographs are unsuitable. The General Index, though useful, omits some orders and families of insects.

The appearance of this book is timely. Opportunities to study biogeography and ecology of the biota peculiar to New Zealand are decreasing as development of unmodified habitats for commercial purposes proceeds.

H. L. Secker

**A Guide to the Birds of Panama** by Robert S. Ridgely, 1976. Princeton: Princeton Univ. Press. Pp 394, col. pll (by John A. Gwynne, Jr.) 32, b. & w.i ll. over 50, maps 2. 155 x 232 mm. \$A19.00.

The rich Panamanian avifauna is particularly interesting because both neotropical and North American elements are represented. Birdwatching and serious ornithological research have increased significantly in Panama in recent years and Ridgely's book admirably satisfies the need for a field guide of use to both novice and experienced professional. Although written much in the style of De Schauensee's *A Guide to the Birds of South America*, its more detailed accounts of species make it more useful in the field.

Italicizing distinctive field marks and emphasizing differences between similar species likely to be confused are valuable features of the accounts of species. The line-drawings help in this connexion too (e.g. anis, raptors) and could profitably have been used more widely. Notes on habits range from useful to virtually useless. Descriptions of nests and nesting sites and details of breeding seasons would have aided the serious field observer.

The Introduction could have been improved by including maps showing rainfall and vegetation. However, the section detailing good 'birding' sites and how to reach them is exactly what the new visitor needs and what such books infrequently provide. The few pages on conservation paint the typical Central-South American picture of large scale destruction of forest and slaughter of animals; Ridgely's plea for establishing national parks is timely and apposite; but I am not optimistic.

Gwynne's colour plates are generally very good but some are too crowded and his practice of overlapping paintings and illustrating only half a bird is unhelpful. Occasionally colours seem inaccurate (or else my memory is fading).

The book is a valuable addition to the growing collection of Middle and South American ornithological guides.

A. Lill

## PAPERS

**Systematics and Evolutionary Relationships Among the Herons (Ardeidae)** by R. B. Payne and C. J. Risley, 1976. Misc. Publ. Mus. Zool., Univ. Mich., 150. Pp 115, figs 47, tables 7. 253 x 170 mm (paperback).

During the last hundred years there has been only one other revision based on an examination of original material of the Ardeidae (Bock 1956, Am. Mus. Novit. 1779). Condon reviewed it in Emu 59: 66-67 but did not follow it in the 1975 RAOU Checklist. The generic classification of Payne and Risley differs substantially from those of Bock and Condon, as is shown by their placing of the Australian species as follows: *pacifica*, *sumatrana* and *alba* in *Ardea*; *picata*, *intermedia*, *ibis*, *novaeollandiae*, *garzetta* and *sacra* in *Egretta*; *striata* in *Ardeola*; *caledonicus* in *Nycticorax*; *minutus*, *sinensis* and *flavicollis* in *Ixobrychus*; and *poiciloptilus* in *Botaurus*.

Bock based his classification mainly on external characters; Payne and Risley, theirs mainly on thirty-three skeletal characters. Bock, as well as Payne and Risley, failed to give any characters by which *Ardeola*, including *Butorides*, may be distinguished from *Ardea* and *Egretta*. Bock used only a single attribute, the presence of aigrettes as diagnostic for *Egretta*. Payne and Risley dismiss this diagnosis by suggesting that it 'may reflect the work-

ing definition of the plume hunters of the turn of the century of egrets as birds with "marketable" plumes'. To separate *Egretta* from *Ardea* and *Ardeola*, Payne and Risley also use only a single attribute, the extent of the lateral process of the palatines. On checking this feature in skulls of Australian and North American species of herons in the collections of the CSIRO Division of Wildlife Research, Canberra, I found the extent of the lateral process to be a matter of degree rather than an absolute difference and certainly not a character to be used for distinguishing between genera. On the evidence presented by Bock and by Payne and Risley, I would recommend that *Egretta* T. Forster, 1817, *Ardeola* Boie, 1822, and *Butorides* Blyth, 1849, be regarded as synonyms of *Ardea* Linnaeus, 1758.

Payne and Risley agree with Bock that *flavicollis* differs insufficiently from the other small bitterns in *Ixobrychus* to be placed in a separate monotypic genus *Dupetor*.

Bock suggested that the large *Botaurus* bitterns, *stellaris*, *poiciloptilus*, *lentiginosus* and *pinnatus* form a superspecies and may be conspecific. Payne and Risley show that there are substantial differences between the Old World *stellaris* and *poiciloptilus* and the New World

*lentiginosus* and *pinnatus*, but fail, as did Bock, to give any characters that separate *poiciloptilus* from *stellaris* and *pinnatus* from *lentiginosus*. The Australasian *poiciloptilus* may therefore be regarded as a subspecies of *stellaris*, as it is in the 1970 Annotated Checklist of the Birds of New Zealand.

Despite failures adequately to diagnose their taxa Payne and Risley have produced a useful monograph on the Ardeidae with a wealth of new information.

G. F. van Tets

**Collected Papers in Avian Paleontology Honoring the 90th Birthday of Alexander Wetmore** edited by Storrs L. Olson, 1976. Smithsonian Contributions to Paleobiology No. 27. Pp xxvi + 211, figs 89, table 27. 260 x 200 mm (paperback).

After a flurry of activity following the discovery of several large and spectacular fossil birds during the nineteenth century the study of avian palaeontology was neglected. From about 1910 to about 1960 less than half a dozen people studied the subject. It was kept alive mainly by the work of Alexander Wetmore, who from 1917 to 1972 published 155 papers on fossil birds, naming almost as many new taxa. He also described some 189 new species and subspecies of recent birds. This *Festschrift* of nineteen papers not only honours his prodigious efforts but also demonstrates that avian palaeontology is again the subject of active research combining the disciplines of geology, prehistory and zoology.

The introductory pages contain an abstract, a table of contents, a preface, appreciations of Wetmore by S. Dillon Ripley and Jean Delacour, an essay on 'Alexander Wetmore and the Study of Fossil Birds' by Storrs L. Olson, a chronological list of the publications in avian palaeontology by Wetmore and an index to the fossil avian taxa described by him.

The abstract provides information on the eighteen papers that follow. J. H. Ostrom analyses hypothetical stages in the development of flight between *Archaeopteryx* and modern birds. P. D. Gingerich confirms that *Ichthyornis* and *Hesperornis* had teeth, that the palate in *Hesperornis* is palaeognathous and that these Cretaceous toothed birds appear to occupy a position between dinosaurs and modern birds. L. D. Martin and J. Tate, Jr, describe the skeleton of the Cretaceous diving bird *Baptornis advenus* and conclude that the Baptornithidae belong in the Hesperornithiformes but are less specialized than *Hesperornis*. P. Brodkorb describes the first-known Cretaceous landbirds as forming a new order, possibly ancestral to the Coraciiformes and Piciformes. E. N. Kurochkin summarizes the distribution and palaeoecology of the Palaeogene birds of Asia, with particular emphasis on the evolution of the gruiform families Eogruidae and Ergilornithidae. P. V. Rich and D. J. Bohaska describe the earliest-known owl from Palaeocene deposits in Colorado. A. Feduccia transfers the Eocene genus *Neanis* from the Passeriformes to the Piciformes and he and L. D. Martin go on to refer this and four other genera to a new family of Piciformes, concluding that these were the dominant perching landbirds of the Eocene of North America. Olson describes a new species of todid from the Oligocene of Wyoming and refers the genus *Protornis* from the Oligocene of Switzerland to the Momotidae, concluding that the New World Coraciiformes originated in the Old World. C. T. Collins describes two new species of the Eo-Oligocene genus *Aegialornis* and presents evidence that the Aegialorni-

thidae should be referred to the Caprimulgiformes rather than to the Apodiformes, although they might be ancestral to the swifts. In the next paper he shows that the earliest known true swifts (Apodidae) are three nominal forms from the Lower Miocene of France, which prove to be but a single species of *Cypseloides*, a modern genus belonging to a primitive sub-family now restricted to the New World. S. L. Warter describes a new osprey from the Miocene of California to provide the earliest certain occurrence of the family Pandionidae and treats functional aspects of the evolution of the wing in *Pandion*. H. Howard describes a new species of flightless mancalline auk, also from the Miocene of California, which is temporally and morphologically intermediate between *Praemancalla lagunensis* and the species of *Mancalla*. R. W. Storer analyses Pleistocene fossils of pied-billed grebes, synonymizing *Podilymbus magnus* Shufeldt with modern *P. podiceps* and describing a new species from peninsular Florida. K. E. Campbell, Jr, lists fifty-three species of birds, including new species of *Buteo* and *Oreopholus*, from a Pleistocene deposit in south-western Ecuador and compares this with a fauna of similar age from north-western Peru, both of which indicate more humid conditions in the past. O. Arredondo summarizes aspects of the morphology, evolution and ecology of the gigantic owls, eagles and vultures recently discovered in Pleistocene deposits in Cuba. J. Cracraft analyses variation in the moas of New Zealand, reduces the number of species recognized to thirteen and suggests that several 'species pairs' represent examples of sexual dimorphism in size. G. V. Morejohn reports remains of the extinct flightless duck *Chendytes lawi*, previously known only from Pleistocene deposits, from Indian middens in northern California, and concludes that the species became extinct through human agency less than 3,800 years ago.

The editor and the Smithsonian Institution Press are to be congratulated on a superb production with a well-balanced and integrated text, clear illustrations and a pleasant format. It must not have been easy to weld the contributions of the authors into a unified whole that is now a milestone in avian palaeontology and a worthy tribute to Alexander Wetmore.

G. F. van Tets

**The Birds of the Great Barrier Reef** by J. Kikkawa, 1976. Pp 279-341 in *Biology and Geology of Coral Reefs*, Volume 3 (Biology, 2), edited by O. A. Jones and R. Endean. New York: Academic Press.

In his Introduction Dr Kikkawa briefly covers the major sources of our scattered information, beginning with the naturalists who accompanied Captain Cook in 1770. Then come some generalizations on coral reefs, cays and tropical seas and the birds that inhabit them.

This leads to a section on the distribution of the birds, not of the Great Barrier Reef, but of the 'Great Barrier Reef Region', which includes the islands of the Coral Sea and, with much less justification, the high islands close to the Queensland mainland. After numerical analysis Dr Kikkawa comes to the remarkable conclusion that Willis Island (450 km east of Cairns) has more in common with coastal than oceanic islands. If we turn to the 35-page appendix we can see what has happened. Here are listed all the birds recorded from the islands. For example, five species of kingfisher are recorded for Willis Island, namely the Azure, Little, Sacred, Mangrove and Forest. Now, there are no resident kingfishers on Willis Island but great numbers of Sacred Kingfishers cross the Coral Sea during their migration

between south-eastern Australia and New Guinea. I believe that all the records of the other species are in fact based on sightings of the Sacred. These records were made not by ornithologists but by officers of the Willis Island Weather Station. Kikkawa's failure to eliminate these and other erroneous records has vitiated his analysis. It has also greatly reduced the value of the appendix as a source of data for other workers.

Much better based are Kikkawa's comments on the breeding birds of the islands. Among these he cites the race of the Silvereye *Zosterops lateralis chlorocephala* on the Capricorn Islands as the only taxon endemic to this region; however, the Great Barrier Reef population of the Land Rail *Rallus philippensis yorki* could well constitute another.

A table summarizes laying season and clutch size in the thirty-four species breeding on the coral islands. In the text the Lesser Frigatebird is said to be a summer breeder but in the table its laying season is correctly given as in winter.

Finally Kikkawa discusses the behaviour and evolution of the landbirds of the islands. Most work has been done on the Capricorn race of the Silvereye, which, in the absence of competitors, attains very high densities. It is larger and more aggressive than the mainland race, which commonly reaches the Capricorn Group in winter.

Composing half of the paper, the appendix merits additional notice. It is based on a search of the literature by Carolyn Jeffrey. The birds are listed roughly in systematic sequence and the islands are listed from north to south, an asterisk indicating that the species breeds on that island. (I suspect that many of these breeding records are assumed and not founded on observation). Certain references were not extracted by Mrs Jeffrey, notably the Catalogues of the British Museum and G. Masters on the birds of the 'Chevert'. However, these omissions are unimportant compared with the uncritical acceptance of numerous dubious and erroneous observations. Had Kikkawa himself searched the literature, surely he would have rejected the Dunk Island record of *Gallinago megala* after reading the observer's claim to distinguish that species from *G. hardwickii* on the coloration of the back; and surely he would have realized that the observation from the Whitsunday Group of *Charadrius cucullatus* (otherwise unknown from Queensland) referred to the Turnstone.

In summary this is an interesting introduction to the birds of the Great Barrier Reef but readers will need to be cautious when using Dr Kikkawa's raw data and some of the conclusions based on them.

G. M. Storr

**Systematics of Parrots** by G. A. Smith, 1975. Ibis 117(1): 18-68.

Numerous different major subdivisions have been proposed for Psittaciformes, the parrots, and this work by G. A. Smith uses yet another scheme. His arrangement differs markedly from previous systems but agrees most closely with Salvadori's (1891, Catalogue of the Birds in the British Museum, 20). One family is admitted, the Psittacidae, with four subfamilies: Platycercinae, Lorinae, Arinae and Psittacinae, sharing eleven tribes. This is one of the first arrangements in which all the distinctive parrots of the New World have been placed alone in a single taxon, the Arinae, and this would be one of the paper's more significant contributions. Reasons for this move are given.

Rather than basing his arrangement on a study of one main criterion as did so many of his predecessors, thereby sometimes producing quite unnatural groupings, Smith has presented in some depth data on twenty-five subjects. Some of these, particularly the behavioural ones, are 'new'. Unfortunately, despite his examination of a good deal of autopsy material, he has not mentioned ectoparasites, which can provide further guidance as to the taxonomy of their hosts.

Amateurs, such as myself, with an interest in the science of ornithology, would do well to note some points raised in this paper. For instance, sexual dimorphism is classified into two groups, exogenous and endogenous, depending on how it has evolved. This sort of assessment stresses the importance of understanding function in taxonomic work.

Smith is primarily concerned in this paper with establishing the major subdivisions in Psittaciformes. I think that relations between genera and, in particular, species will need to be established before a really suitable phylogeny can be developed. But, as Smith says, 'the overall morphological sameness which makes the order so distinct, also makes further subdivision difficult'.

Leo Joseph

## CONTENTS OF OTHER PERIODICALS

Compiled by M. G. BROOKER

Readers will have noticed that the method of providing information about ornithological literature other than books has varied over the years. Till about five years ago, a section of 'Shorter Notices' mentioned a few papers published in other journals, selected haphazard. In order that coverage might be better, we then gave full contents of the issues of some journals, chosen on a regional basis. This was not satisfactory because important papers in journals not scanned were missed and because the full contents of those scanned often included requests for information, domestic notices and the like, which could not have interested our readers. Lately the policy has been for Mr Brooker to scan journals that contain or could contain material on Australasian birds in the CSIRO Division of Wildlife Research Library, Canberra, and to list titles of relevant papers. Papers with some ornithological content that were excluded either had titles that did not convey their subject

matter or dealt with matters of only local or domestic interest.

All methods have been criticized legitimately, often with constructive comments, but it must be understood that there is a limit to what we can do. We have never wished to cover the international literature because that is done adequately elsewhere and we do not have the resources to publish long lists of papers, either as part of each issue or as supplements. The best we can do is to present a page or two, listing papers dealing with Australasian birds, and we try to make the list as comprehensive as possible for journals published in Australia, New Zealand and Papua New Guinea.

The crux of the matter is what is reasonable to select and this is doubtless a matter of judgement. However, some journals scanned are popular and contain many short notes, perhaps of considerable interest but often with uninformative or misleading titles, e.g. 'A First

for Victoria'. Obviously it is pointless listing that without an explanation, for which we do not have the space. So, we could claim that shortcoming in our selection is sometimes caused by original bad presentation.

Mr Brooker scans the following journals:

Agricultural Gazette of New South Wales  
 Australian Birds  
 Australian Bird Watcher  
 Australian Journal of Biological Sciences  
 Australian Journal of Ecology  
 Australian Journal of Marine and Freshwater Research  
 Australian Journal of Zoology  
 Australian Natural History  
 Australian Wildlife Research  
 Bird Observer  
 Canberra Bird Notes  
 Corella  
 CSIRO Division of Wildlife Research Technical Memoranda.  
 Ecological Society of Australia Proceedings  
 Geelong Naturalist  
 Hunter Natural History  
 Koolewong  
 Mauri Ora  
 New Guinea Bird Society Newsletter  
 New Zealand Department of Internal Affairs Wildlife Publications  
 New Zealand Journal of Zoology  
 New Zealand National Museum Records  
 North Queensland Naturalist  
 Notornis  
 Papua New Guinea Museum Records  
 Queen Victoria Museum Records  
 Queensland Agricultural Journal  
 Queensland Journal of Agricultural and Animal Sciences  
 Queensland Museum Memoirs  
 Queensland Naturalist  
 Royal Society of Queensland Proceedings  
 Royal Society of South Australia Transactions  
 Royal Society of Victoria Proceedings  
 Royal Society of Western Australia Journal  
 Search  
 Science in New Guinea  
 South Australian Journal of Agriculture  
 South Australian Museum Records  
 South Australian Naturalist  
 South Australian Ornithologist  
 Sunbird  
 Tasmanian Journal of Agriculture  
 Tasmanian Naturalist  
 Victorian Fisheries and Wildlife Papers  
 Victorian Journal of Agriculture  
 Victorian National Museum Memoirs  
 Victorian Naturalist  
 Western Australian Department of Fisheries and Fauna Reports  
 Western Australian Journal of Agriculture  
 Western Australian Museum Records  
 Western Australian Naturalist  
 Western Australian Wildlife Research Bulletin

We should be glad to hear of others likely to contain material of more than trivial or domestic interest.

The previous title of this section, 'Australasian Ornithology', seems uninformative or misleading, even with the added subtitle. Because it can easily be assumed that the section deals with ornithological material and because some selection is inevitable, there is no point in beating about the bush. The section is now being renamed 'Contents of other periodicals'.

#### **Australian Wildlife Research 3 (2) 1976**

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#### **NZ Department of Internal Affairs Wildlife Publications (189) 1976**

Seabirds found dead in New Zealand in 1974. (C. R. Veitch)

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