

their attention to other sea-birds. Indeed, there is already unimpeachable evidence that Fairy Penguins in thousands are being taken for bait in south-western Tasmania. Sooner or later, it is hoped, governments will appoint an adequate staff of inspectors and observers to assist in conserving our Australian flora and fauna. In the meantime the position is critical.

Yours, etc.,

C. C. LAWRENCE.

Lindisfarne, Tas.  
21/5/50.

## Obituary

HUGH MCKNIGHT

The recent death of Mr. Hugh McKnight should be recognized in ornithological circles because he was responsible for many of the photographs reproduced in Charles Belcher's charming book, *'Birds of Geelong.'* Mr. McKnight was the son of Hugh Riordan, who married a daughter of Charles McKnight, one of the partners who originally settled on Dunmore, West Victoria, in 1843. As the name McKnight was in danger of running out, the Hugh Riordan of Belcher's book changed his name to McKnight, his mother's surname.—N.L.

## Reviews

**Drawings Used by Latham.**—John Latham (1740-1837), who may be considered the grandfather of Australian Ornithology, was an industrious and indefatigable collector of material for his *General Synopsis of Birds* (1781-1785) and its supplements with their latin equivalents (1787, 1790, 1801). Drawings and specimens brought back to England by exploring expeditions, or collections of bird paintings from various parts of the world, including the then recently established settlement at Sydney, were used by him to describe a large number of new species. F. C. Sawyer, Zoological Librarian, British Museum, Natural History, has listed, with appropriate bibliographical details, the several collections mentioned by Latham, *'Notes on some Original Drawings of Birds used by Dr. John Latham,' Journal of the Society for the Bibliography of Natural History*, vol. 2, pt. 5, Sept., 1949, pp. 173-180.

Those that concern Australian workers are the Banks drawings, which include illustrations of birds collected during Cook's three voyages of discovery, the artists being Parkinson, Forster and Ellis, the Francillon drawings, the Lambert and the Watling series.

Latham himself appears to have copied, or have had copied by his daughter Ann and others, many of the drawings lent to him. Sawyer is of the opinion "... that in many instances the drawings in front of Latham, from which his descriptions were made were his *own* copies, i.e. the Latham Drawings, and that these should be regarded as the types." Such a statement introduces an element of confusion, particularly in relation to the Lambert and the Watling drawings, to an already complicated problem, a problem that has been discussed with considerable divergence of opinion by Gregory M. Mathews and others in *The Austral Avian Record*, in the pages of *The Emu*, and

by Hugh S. Gladstone in his book on Thomas Watling (1938). Sawyer states that the Francillon drawings may have been, in effect, the Watling drawings. However, I have a ms. note, sent me some years ago by Mathews, that they are copies of either the Lambert or the Watling drawings. It may be mentioned that the Lambert drawings are, for the most part, copies of the Watling series, and are considered by some workers to form the basis of Latham's descriptions appearing in his *Supplementum Indicis Ornithologici*, 1801. Latham, at the age of 81, commenced publishing his *General History of Birds*, of which ten volumes appeared between 1821-1828: therein is some evidence indicating that he used field notes and other information appearing, so far as is known, only on the Watling drawings. Mathews (*Austral Avian Record*, vol. 4, 1920, pp. 114-122) indicated that a collection of drawings in the British Museum (Banksian folio no. 34) may have been the Davies drawings, but Sawyer has shown that the real Davies drawings are those now in the Earl of Derby's library at Knowsley, comprising 126 delineations of birds with their names and localities.

The many interesting problems associated with these early collections of drawings, particularly those done during the first years of settlement in New South Wales, needs detailed treatment. Sawyer, in his contribution under review, has done a service to future ornithological historians in recording details and the present whereabouts (where known) of the various collections of drawings mentioned by Latham. —K.A.H.

**The Fulmars.**—Because the Silver-grey Petrel (*Pterodroma antarctica*), of the *Australian Checklist* (1926), is but accidental to our coasts, we might not realize that it is a common Antarctic sea bird, "slightly less abundant" than its close relative and "the most numerous bird of the Arctic pack-ice," the Fulmar (*Fulmarus glacialis*). This close relationship is somewhat hidden because of their different vernaculars and usually accepted discrepant monotypic genera. However, Dr. K. H. Voous, in an interesting review ('The morphological, anatomical and distributional relationship of the Arctic and Antarctic Fulmars, *Ardea*, vol. 37, 1949, pp. 113-122) emphasizes close similarity, for "it appears that no fundamental reasons exist in favour of the generic separation of the Antarctic and Arctic Fulmars. Indeed these species may be united into one superspecies." The different bill structure of the two species would appear to be somewhat 'bridged' by the "slightly less specialized" Pacific race of the *Fulmarus g. rogersii*, which "during the last Glacial Period" must have become separated from the nominate race. Such might explain the distributional gap between the two races.

No reason is given for accepting *glacialisoides* (Smith) instead of the prior *antarcticus* (Stephens) for the Southern Fulmar. However, the vernacular names used could be profitably adopted. Text-figures depicting bill structure, and one photographic plate serve to illustrate. —A.R.M.

**Richdale's Studies of Buller's Mollymawk.**—Mr. L. E. Richdale has added another species to his growing list of notable, detailed studies of pelagic birds. With a companion he camped on the largest of the Snarres Islands from January 9 to February 26, 1948, enabling undiverted study of Buller's Mollymawk (*Diomedea bulleri*)—"pre-egg stage for 48 days and the incubation stage for 41 days." A total of 112 nests were observed daily, and each bird at those nests identified as individuals and in sex; 234 other nests were observed at greater intervals; 161 birds were banded. The study is published, to date, in two sections: 'Buller's Mollymawk: Incubation Data' (*Bird Banding*, vol. 20, no. 3, July, 1949, pp. 127-141, two ills.); *The Pre-egg Stage in Buller's Mollymawk* (Biological Monograph no. 2, published late 1949, by the author, 23 Skibo Street, Kew, Dunedin, s.w.1, New Zealand,

52 pp., 16 ill., price 10/- stg., 7/6 stg. on direct order from author). "The behaviour of Buller's Mollymawk at the pre-egg stage closely resembles that for the Royal Albatross, *D. epomophora sanfordi*." The incubation data is concerned with laying dates of 241 eggs (one egg to a clutch), and incubation span of each sex (at 24 nests?). "The span of each sex on the egg . . . is phenomenally long . . ."

The detailed nature of Mr. Richdale's studies is well known and needs no emphasis here. Detailed information requires careful methodical presentation for reasonable understanding at first reading (ornithology is not yet the sole preserve of the pure scientist); this reviewer found the monograph to meet that requirement, but the paper on incubation data was 'hard going,' to which lack of a confirming summary was a contributing factor.—J.J.

**Albatross Behaviour.**—Of five recent papers and booklets by Mr. L. E. Richdale coming to notice, the most significant is an exhaustive study of *The Pre-egg Stage in the Albatross Family*—a study of behaviour, based on thirteen years of observation of the Royal Albatross breeding colony at Taiaroa Head, Otago Peninsula. The author defines the 'pre-egg stage,' for the purposes of his paper, as the period between the arrival of the birds on the breeding grounds and the laying of the egg, and it therefore includes the whole of the period spent on the breeding grounds by those birds which he terms 'unemployed'—unmated birds, and mated birds which do not produce an egg at any stage of the breeding season.

The work follows generally the lines taken by the author in his previous studies of this type, on the penguins, the petrels, and Buller's Mollymawk, and, like all the published researches of Mr. Richdale, it is nothing if not thorough. Statistical analysis of results has been applied wherever it is applicable. As an example of how complex such an apparently simple study may become, it is noted that the author recognizes no fewer than nine distinct categories of 'unemployed' birds. If there is one criticism to be made, it is of the employment of such florid terms as 'the ecstatic ritual' in distinguishing specialized behaviour patterns—the term is too anthropomorphic, too prone to conjure up unwarranted mental pictures, to be used as a label in a purely objective study. The monograph is effectively illustrated with photographs by the author. The published price is 12/6, or 10/- stg. if ordered direct from the author, 23 Skibo Street, Dunedin, New Zealand.—P.C.M.

**Other Richdale Papers.**—Other recent papers by Mr. Richdale include *Effect of Age on Laying Dates, Size of Eggs, and Size of Clutch in the Yellow-eyed Penguin (Megadyptes antipodes)* (Wilson Bull., vol. 61, no. 2, June, 1949). Weights, lengths, and breadths of eggs are correlated statistically with the ages of birds from two-year-olds to 'aged,' and the conclusion is that the size of egg increases up to the age of five years but it inclined to decrease at the end of the reproductive period of the bird's life. Young birds, also, are more likely to produce only one egg for the season; the normal clutch is two.

The remaining three papers, nos. 9, 10 and 11, of Richdale's 'Wild Life Series,' are not concerned with fundamental research. The first, which completes volume I of the series, presents a set of 20 photographs of the Royal Albatross (*Diomedea epomophora sanfordi*) at Taiaroa Head, Otago Peninsula, N.Z., showing adults, nest, egg, and young in various stages of development. The other two are the beginning of a series on the birds of New Zealand. Of sixteen pages each, plus four pages of pictures, the first deals with native perching birds, and the second with a group which, for convenience, he describes as 'allied perching birds,' comprising all the orders from pigeons to kingfishers. Prepared for the general reader and for schools, they give brief descriptive notes of each bird in turn. The prices (stg.) of the three booklets are: *Photographs of the Royal*

*Albatross*, 3/6; *Native Perching Birds of New Zealand and Allied Perching Birds in New Zealand*, 2/6.—P.C.M.

**Northern Melanesian Birds.**—Australian ornithologists must extend their interests northwards. Mayr has for many years been publishing papers on New Guinea and neighbouring areas with few people following up the associations indicated. 'Notes on the Birds of Northern Melanesia,' by Ernst Mayr, *Amer. Mus. Nov.*, no 1417, May 7, 1949, deals (*inter alia*) with a number of forms with Australian affinities. There is reiteration of the belief that *Excalfactoria* is equivalent to *Coturnix*. Rails are always characteristic birds of Pacific islands, able to colonize oceanic groups despite weak flight powers. Many genera of rails and allies are monotypic, and a revision is badly needed. Mayr considers that *Tribonyx* should be merged with *Gallinula*, and *Notornis* with *Porphyrio*. Delacour considers the Weka related to *Rallus philippensis*. The widespread *Porzana tabuensis* is not yet recorded from the Solomons. A Bismarck Archipelago stray was considered by Stresemann as a visitor from Australia or New Zealand, but there is no evidence of such migration.

Of *Porphyrio* it is said that few ornithologists appreciate "the almost unbelievable amount of individual variation among the eastern populations of the species," which make it difficult to fix geographical races. Peter Bull's *Emu* paper on the Russell Islands is commented upon. Deignan's lumping of *magnirostris* (of *Orthorhamphus* = *Esacus*) with *recurvirostris* is upheld. New Britain specimens of the White-headed Stilt are considered as probable visitors from Australia.—C.E.B.

**Birds of South-eastern Papua.**—E. Thomas Gilliard in *Amer. Mus. Nov.*, no. 1453, February 10, 1950, gives an account of a collecting trip along the Kokoda Track and a list of birds collected.—C.E.B.

**Philippines Birds.**—Another 'war area' visited by Gilliard, who is Assistant Curator, Department of Birds, American Museum of Natural History, in connection with collecting and assembling for the habitat groups in the Whitney Memorial Hall, was Bataan, Luzon, Philippine Islands. The results appear in 'Notes on a Collection of Birds from Bataan,' *Bull. Amer. Mus. Nat. Hist.*, vol. 94, part 8, pp. 457-504. Ornithological history, ecological notes and geological and geographical notes precede the annotated list. One new race was recorded, and one new species for the Philippines—*Phylloscopus coronatus ijimae*.

The paper 'Notes on Philippine Birds,' by Dean Amadon and Stanley G. Jewett, Jr., *Auk*, vol. 63, pp. 541-559, October, 1946, might be mentioned here. A note on *Porzana tabuensis* suggests caution in recognizing numerous races described. A revision of the Indo-Australian grass-owls recognizes only *capensis* specifically, *longimembris* being the Indian (and ? Formosa) subspecies, and *walleri* the Australian race referred to as extending from the Celebes to northern Australia and New Caledonia and Fiji. Records from southern Australia, chiefly sporadic, are not mentioned.—C.E.B.

**Western Australian Bird Notes.**—The latest issues of *The Western Australian Naturalist*, vol. 2, nos. 3 and 4, contain considerable bird information. Included in the former is 'The Breeding of Crimson Chats in the Morowa District in 1949,' by S. R. White; 'Pallid Cuckoo Observations, 1949,' by J. Gentilli; and 'Extension of Recorded Range of the Bourke Parrot,' by Eric H. Sedgwick (110 miles north of Leonora). Part 4 contains 'Cuckoo Notes from the Morowa District,' by S. R. White (numerous nests of the Crimson Chat, a recorded foster parent of *Chalcites basalis*, ignored by that species; Fan-tailed Cuckoo imposing on the Redthroat); 'Immigration of the Indian Crow to Western Australia' (notes by J. L. Ruddiman, and by Angus Robinson); 'Bird Notes from the Mouth of the Murchison River,' by K. G. Buller (three additional species recorded to those in *The Emu*

account, and both *Malurus pulcherrimus* and *M. assimilis* collected); 'Mimicry in the Brown Thornbill,' by Rica Erickson, and 'Races of the White-tailed Cockatoo,' by H. M. Whittell.

This comment is not necessarily a criticism, but merely a suggestion for consideration. Some of the items referred to are 'continuation' accounts of *Emu* papers, others are of sufficient importance to be afforded wider publicity than the magazine under review probably provides. Dr. Gentili's account is surely matter arising out of an R.A.O.U. venture raised at the Perth 1949 Congress. In fairness to students of Australian ornithology generally, authors might consider whether this reviewing journal would not be a better medium for publication for some items—and not take umbrage at a suggestion made in the best interests of the subject.—C.E.B.

**Birds of the Geelong District.**—Here is a belated acknowledgment of the *Garrard Memorial Record*, for 1948, published by the A. F. Austin Natural History Society, Geelong Grammar School, in June, 1949. Some excellent photographs by J. B. Ponder and his youthful associates, with sketches dealing with certain of the subjects and additions to the You-Yangs' bird list, make an attractive booklet—worthy successor to the previous year's brochure and admirable precedent for the future.—C.E.B.

**A. J. Marshall's Recent Papers.**—Over the last year three most interesting papers have appeared by Dr. A. J. Marshall—to the present reviewer the most significant he has read thus far on the subject.

'The Breeding Seasons of Animals,' was published in no. 5, 1949, of the *New Naturalist*. It provides a lucid account for the general reader of the modern view of the functioning of the reproductive cycle. With the aid of simple diagrams, one for the male and the other for the female, he describes the 'chain reaction' from the external stimulus acting through various paths (sight, sound, touch, etc.) through the anterior pituitary gland and the reproduction of various hormones which activate the sexual organs.

'On the Function of the Interstitium of the Testis, The Sexual Cycle of a Wild Bird, *Fulmarus glacialis* (L),' *Quart. Journ. Microscopical Soc.*, vol. 90, 1949, pp. 265-280, is a detailed study dealing with 64 Fulmars collected over a period of seven months, over which the testes increased in size from 7 x 4 mm. to 24 x 12 mm. and regressed again to 7 x 5 mm. after the climax of the nesting cycle. This development was correlated with a similar development of the Leydig cells in the interstitium. The freshly-removed testes were fixed in formal-calcium, whereby the vital hormone-containing fatty substances were retained (the fixatives used by earlier investigators dissolved them all out before they reached the microscope) and in Champy's fluid. By examination of the Leydig cells Marshall was able to distinguish the two distinct mature types described by previous workers but agreed with Benoit that these cells may possibly be different stages of the same cell. He also found a juvenile type in immature birds which developed "into the lipid Leydig cell at a time when the testes tubules also indicate approaching maturity." His conclusions, unlike those of Sluiter and van Ordt (1947) were that the lipoidal cells were responsible for the secreting of the sexual hormones and not the fuchsinophil or "secretory cell A" of Sluiter and van Ordt. This was based on the fact that the lipoidal cells though always evident in numbers, increased by at least 300 per cent by the time spermatogenesis took place, whilst the fuchsinophil or non-lipoidal cells only appeared in numbers after the peak had been reached and degeneration started to set in in the tubules. In the Fulmar, regeneration of the testes is evident when the birds are arriving at the breeding cliffs in autumn and also when they leave the cliffs after breeding, in both cases when the days are getting shorter. This regeneration would

possibly explain the autumn display and song behaviour in so many birds and also the relapse into the behaviour characteristic of the breeding season which so many adults show after their young have left the nest.

'Weather Factors and Spermatogenesis in Birds,' *Proc. Zool. Soc. Lond.*, vol. 119, 1949, pp. 711-716, is based on an investigation of the testes of four common passerine species in England, shot between March 13 and 15 in successive years. The winter of 1946-47 was the coldest in recorded history but the following one was normal. Care was taken that all birds in the vicinity of the experiment were getting enough food. In all species in 1947 there was little food in the stomachs except proffered food, and in 1948 they had a large content of their natural food. In 1948 the testes of three species were almost double the size they were in 1947 and in the fourth they varied from 1.5 mm. in diameter in 1947 (with tubules 40 microns wide) to 6 x 4 mm. in 1948 (with tubules 200 microns wide). The three abnormal factors causing an inhibiting effect in 1947 were intense cold, lack of suitable natural food and lack of sunshine. Despite this, however, all the species nested about the normal time. This was caused by a sudden rise in temperature above normal and abundant sunshine in the April following the hard winter, demonstrating that the testes are capable of quick development when the occasion rises. This is a very significant fact to workers in Australia where seasons are so variable.—A.H.R.

**Parrots Bred in Captivity in U.S.A.—***Records of Parrot-like Birds Bred in the United States of America*, by Arthur A. Prestwich is the collated result of a search of the American publication *Aviculture* in preparation for a more extensive future publication. Attention is drawn to many interesting breeding records, but in a large proportion of instances either the specific identification by the breeder is unsatisfactory, or the evidence in regard to complete success is very slender or entirely lacking.

It may be of interest to readers to enumerate the Australian species which appear to have been bred in captivity in the United States. The only lorikeet to have been bred is the Rainbow, and although the White Cockatoo, Pink Cockatoo and Galah have all been bred on several occasions, the interesting record in regard to the Palm Cockatoo goes no further than the statement that young were hatched. The Cockatiel is universally bred and successes with the Red-sided Parrot have been fairly numerous. The record in regard to the Superb Parrot is a very dubious one, but the Regent Parrot, Princess Parrot, Red-winged Parrot, and King Parrot have all been bred more than once. Of the rosellas the Crimson, Pale-headed, and Eastern appear to be commonly bred, but there is but one record each in regard to the Yellow and Northern.

The Ring-necked Parrot has undoubtedly been bred but the record of the Port Lincoln Parrot is very doubtful. Strangely enough, the Red-capped Parrot, which has only been bred on a few occasions in Australia, is regarded as a frequent breeder. The Red-backed Parrot is recorded as a free breeder but the Hooded Parrot has only been bred by one individual. Of the grass parrots, the Bourke and Elegant breed freely, and the Blue-winged occasionally, whilst the Turquoise and Scarlet-chested have been bred infrequently, the last-named only in the last few years. The Budgerygah is, of course, universally bred in many mutations, and under the heading 'Ripley Department' there is a record of a hybrid between a canary and a Budgerygah.—A.H.L.

**Australian Parrots in Captivity.**—The third, fourth and fifth parts of Dr. Alan Lendon's contribution to the *Avicultural Magazine* appear in the July-August and September-October, 1949, issues (vol. 55, nos. 4 and 5) and January-February, 1950, issue (vol. 56, no. 1) respectively.

The first and second parts, covering aviaries, care of the birds, and eight species of Australian parrots, were reviewed in part 1, volume 49, of *The Emu*; and outline of the embrative and informative treatment of his aviary, field and study observations was included in that review. The parts now noted deal with twenty more Loridae species—*Purpureicephalus spurius*, *Barnardius barnardi*, *B. macgillivrayi*, *B. zonarius*, *B. semitorquatus* (July-Aug.), *Platycercus elegans*, *P. adalaidae*, *P. flaveolus*, *P. calcedonicus*, *P. adscitus*, *P. venustus*, *P. eximius*, *P. icterotis* (Sept.-Oct.); *Psephotus haematotus*, *P. varius*, *P. haematogaster*, *P. narethæ*, *P. dissimilis*, *Psephotellus* (= *Psephotus*), *chrysoterygius* and *pulcherrimus* (Jan.-Feb.).

Throughout the parts to date, Lendon is mostly restrained in his treatment of nomenclatural status, giving briefly his attitude on variants (aberrants, forms, races, varieties, subspecies—the terminology of distinction in ornithological and avicultural literature is, frequently, unhappily loose, or loosely used); he contests on aviary experience the R.A.O.U. Checklist's Committee's reduction (*Emu*, vol. 44, p. 88) of *P. narethæ* to a subspecies of *haematogaster*, but does not similarly comment, as he may have, usefully on the pronounced and seemingly speculative lumping among the Australian Checklist Loridae by Mayr and Serventy—they reduced three species to 'semi-species' and seven more to subspecies or synonymy ('The Number of Australian Bird Species,' *Emu*, vol. 44, p. 36); nor on the merging by Peters (*Birds of the World*, vol. III, pp. 263-264) of *Barnardius* into *Platycercus*, and placing of all 'ringnecks' as subspecies of one species—*zonarius*.—J.J.

**Avicultural Items.**—John Yealland (Isle of Wight) asserts that the plate of the King Parrot (*Aprosmictus scapularis*) in Greene's *Parrots in Captivity* is not of that species, "but of one of the 'Island' Kings—probably Amboina Island King or possibly the Salwatty . . ." (*Avicultural Magazine*, Jul.-Aug., 1949, vol. 55, no. 4). The Avicultural Society, in June, 1949, presented to Her Majesty, Queen Elisabeth of Belgium, a pair of young, English-bred Black Swans (*Chenopsis atrata*), on learning that Her Majesty was very interested in the waterfowl on the lakes at the Palace of Laeken, where the species was represented by two old birds, both males. The Queen took personal delivery of the birds, which when released on the lake at the Palace "settled down well"; it is hoped 'a dynasty' will be founded. Leonard Webber (Epping, N.S.W.) reports the breeding in 1949 of a green-headed mutation of the Gouldian Finch, six birds in all; further details will be published "when the young birds have assumed full adult plumage" (*Av. Mag.*, Sep.-Oct., 1949, vol. 55, no. 5).—J.J.

**The Birds of South Australia—Their Distribution and Habitat.**—Under that title *The South Australian Ornithologist* publishes its fourth State list, in an issue (vol. XIX, pts. 6, 7 and 8 in entirety, pp. 53-100, price 9/9) celebrating the jubilee of the Association. (The first list, Sutton's, appeared in 1923, and his revision in 1927. A further revision of Sutton's list, by Condon, appeared in 1946). The present list, prepared by J. E. Terrill and C. E. Rix, includes notes on distribution and habitat within the State, an addition considered to meet a long-felt want and enabling field workers to recognize any extension or retreat of the known range of any species. Classification and taxonomy is in general that used in the R.A.O.U. Checklist (1926), but revised in agreement with various revisions of recent years, also by inclusion of most subspecies described for South Australia, with range of distribution. Habitat terminology is explained. No attempt is being made here to discuss the subject critically.—J.J.

The date of publication was July 31, 1950.