

Australian Sea-Birds. — Through the courtesy of Mr. J. A. Kershaw, F.E.S., Curator, I have been permitted to look over the bird-skins in the National Museum. I have noticed three species of sea-birds that are not on any Australian list, so far as I am aware, namely: — Two specimens of the Antarctic Petrel (*Thalassoica antarctica*), "from and identified by J. Gould"; one from South Australian seas, the other from Australian seas; one specimen of the Snowy, or Ice, Petrel (*Pagodroma nivea*), "from and identified by J. Gould," marked Australian seas; and a specimen of the Antarctic Skua (*Megalestris maccormicki*), taken by N. Batchelor, at Queenscliff, Victoria. When one considers the long Antarctic night and consequent frozen rigours of the far south, it is not surprising that the above-mentioned Antarctic-breeding species should occasionally make their way into lower and more temperate latitudes in the seas of Southern Australia. — A. J. CAMPBELL, F.A.O.U., Melbourne.

Reviews.

["A Practical Handbook of British Birds." — Edited by H. F. Witherby, M.B.E., F.Z.S., F.R.G.S., M.B.O.U., assisted by authors of the various sections: Dr. Ernest Hartert, Miss Annie C. Jackson, H.M.B.O.U. (Mrs. Meinertzhagen), Rev. F. C. R. Jourdain, M.A., M.B.O.U., and Messrs. C. Oldham, F.Z.S., Norman F. Ticehurst, M.A., F.R.C.S. It contains over 1500 pages of letterpress, with 30 plates coloured and monochrome and over 350 text figures. Demy 8vo. 2 vols. (bound as 3) £4/10/- net.]

The issue of Part XVIII. completes a publication of the greatest value to all working ornithologists and bird-lovers. Originality in plan, practical utility and accuracy of detail are claimed for this work, which is the result of great labour and much research.

The information under each species being divided into sections and given in uniform order is easy of reference. All the birds on the British List are included.

Keys to the Orders, Families, Genera and Species are given as guides to identification.

Descriptions are more complete than any hitherto published in book form. They include in each species the plumages and moults of both sexes from season to season, as well as the changes from nestling to maturity under separate headings.

Characters and Allied Forms is a useful section in which the chief characteristics of the species and how it differs from near allies on the British List are shown.

Field Characters.—In this section discriminating notes are given of points of distinction in the bird's appearance "in the field," of flight, notes and song, and other habits. The section dealing with breeding habits deals concisely with breeding habitat, nest, site and construction; eggs, colour, number in clutch and size; breeding season; incubation period and share of sexes, and fledgling period where known. The food, so far as is known,

is given for each species. Distribution is dealt with in detail for the British Isles and in more general terms for abroad. Migrations and passage movements, as observed in the British Isles, are detailed in a special section. The area of arrival and departure and the usual (as well as the extreme) dates are given.

Both in the plates and text figures the aim has been to illustrate characteristic features either in the colour or structure of each bird. The young of British breeding species are also illustrated where they differ conspicuously from the adult. The greatest care has been taken to insure accuracy of detail in the illustrations. Apparently it will be years before such a book of reference is available for Australian field workers.

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[“A Natural History of the Ducks.”—By John C. Phillips, Associate Curator of Birds in the Museum of Comparative Zoology at Harvard College. With plates in colour and in black and white, from drawings by Frank W. Benson, Allan Brooks, and Louis Agassiz Fuertes. Boston and New York: Houghton Mifflin Company, The Riverside Press, Cambridge, 1922.]

This far-reaching and important work is to be completed in four volumes, quarto size. Two volumes have appeared, copies of which have been deposited in the library of the R.A.O.U., “with the compliments of the author.” Every member of the Royal Ornithologists’ Union spontaneously extends his or her hearty thanks to Dr. Phillips for this most handsome and valuable gift.

Although strictly scientific, the work is popularly written, and so easy to understand “that he may run that readeth.” The “Introduction,” dealing with “General Distribution,” “Plumage,” “Flight,” “Special Senses,” “Courtship,” “Nesting,” etc., is most fascinating, compelling the reader to follow closely every line, with no temptation to skip. Space alone forbids a lengthy notice: members for themselves must read the books.

Dr. Phillips begins with the “Dawn of Creation”—Pleistocene times, when the huge, flightless, goose-like bird (*Cnemiornis*) roamed the New Zealand regions, probably in the form of a gigantic Cape Barren Goose, and contemporary with the Moas. It is impossible to draw “a hard-and-fast line between geese and ducks,” and, as in other avine families, osteology, as an aid, has been disappointing. Tree-Ducks, typical of the tropics (of which two species are Australian) are often placed among the true ducks. Dr. Phillips believes they well deserve the rank of a sub-family by themselves. The well-known Australian Black Duck ranges widely into islands of the Pacific. The unique flightless duck (which is little known) of the Auckland Islands, the Musk, the Pink-eared and Freckled Ducks, are considered to be “the most peculiar and aberrant members of the tribe.” Most interesting is the distribution of the sexes in migration. Dr. Phillips writes: “True geese migrate in pairs and families.

Not so with the ducks, for it is quite certain that among most of our (*i.e.*, American) common ducks, the females and young start first and go farther, while the males come later, and these males even stay in a more northerly winter area." And, like the Golden Plover, some Ducks do not return by the same route. Members of the duck tribe in flight travel at various estimated heights, up to 5,000 feet altitude, while the speed is about forty to fifty miles an hour, and probably never exceeds sixty miles. "Aeroplanes travelling at not more than 75 miles an hour have managed to pick up and kill ducks over the rice-fields of California."

Ducks "display" at almost any time of the year, except when the birds are in full moult, and the Doctor adds, with an unconscious touch of humour, "Ducks that are definitely paired practically cease to display." The majority of fresh-water and diving ducks nest on the ground, while nearly all the tropical species nest in trees, not necessarily in hollow limbs, but frequently in deserted stick-made nests of other birds. All line their nests with down, except the Tree Ducks. Clutches of eggs vary according to the species from two to fourteen* in number. The typical term of incubation, in accordance with the natural law of periodicity, is twenty-eight days, but the term varies in some species from twenty-four to thirty-four days. Few males assist in incubation, among the fresh waters, and amongst the diving ducks, none.

The process of moults—two annually—although mystifying, is not without interest. Soon after the females commence to incubate, the males retire and begin to change to the "eclipse" plumage. "During the eclipse, which is a much plainer and less-differentiated dress that remains in its full development for only about three or four weeks, the primary wing-feathers, as well as the tail-feathers, are moulted, and the bird becomes flightless." This flightless stage reminds one of Black Swan "flappers." De-sexing ducks reacts on their plumage phases.

Dr. Phillips is sceptical about ducks carrying their young, in their bills, from nesting trees to the ground, or water, as the case may be. Now is the opportunity for country observers to send in their testimony of any such instances witnessed. However, Dr. Phillips sounds a warning note that must be heeded. "Among the vanishing species," he states, are "several Australian ducks," including the Auckland Islands Merganser, or Flightless Duck, the only flightless anatine bird in the world. It is up to Australians to endeavour to save this remarkable "missing link."

A further notice will appear in *The Emu* when the other volumes of this fine work have been received—a criticism more particularly dealing with the history of those species of Ducks, which are Australian.