

## News and Notes

### FAUNA SANCTUARY DIRECTOR

The Committee of Management of the Sir Colin MacKenzie Sanctuary, Badger Creek, Healesville, Victoria, invites applications in writing (with details of qualifications) by December 17, 1955, for the position of Director of the Sanctuary. Salary up to £1,500 according to qualifications. The post requires a person with lively enthusiasm for public display and explanation of Australian fauna in a bush setting, with ability to achieve efficient management (including breeding of fauna), and to promote public interest. Full-time staff at present is seven adults. Attendance in 1954-55 was 90,000. Intending applicants can obtain details from the Secretary (Mr. N. G. Wishart), Sir Colin MacKenzie Sanctuary Committee of Management, care of Premier's Department, Treasury Gardens, Melbourne, Vic. If circumstances require, applications received within a reasonable time after December 17 will be given consideration.

### OBITUARY

The deaths occurred recently of two of our members—Frank E. Howe, on October 24, 1955, and Sir Russell Grimwade, on November 2, 1955.

### FOR SALE

A member desires to dispose of copies of the following publications—*Victorian Naturalist*, *Australian Naturalist*, *Southern Science Record*, *Sun Nature Books*, and *Australian Museum Magazine* including volume 1 complete in parts. Apply Hon. Librarian, R.A.O.U. Room, 386 Flinders Lane, Melbourne.

*The Emu*, volumes 4 to 55. The following volumes are bound—volumes 21, 22, 23, 24, 26, 27, 29, 31, 36 and 38. Price, £65. Apply B. Amos, 33 Panoramic Road, North Balwyn, E.9, Melbourne.

## Reviews

**Western Australian Ornithology.**—There are several contributions on birds in the *Western Australian Naturalist*, vol. 5, no. 1, July 12, 1955. V. Serventy describes in detail bowers of *Chlamydera maculata* he found near Exmouth Gulf. P. Slater and E. Lindgren list (*inter alia*) the birds (57 species) they saw at Queen Victoria Spring (near the north-west corner of the Nullarbor Plain). In an analysis of 'The Breeding Periods of the Black Cormorant', D. L. Serventy concludes that the species not only breeds in autumn as well as in spring, but that the population breeding in the earlier season is the larger. Shorter papers are on Watson's discovery of the Brush Bronzewing on Garden Island, E. H. Sedgwick's observation of Golden Whistlers fostering a Pallid Cuckoo, V. Serventy's 'Notes on the White-breasted Wood-Swallow', Storr and Dunnet's record of 'Fork-tailed Swifts over Cockburn Sound and Rottne Island', V. Serventy's observations on the Gull-billed Tern, and L. Sedgwick's account of 'Pellet production in *Corvus*'.—G.M.S.

**Tubinares.**—In a substantial paper, 'On the Classification and Phylogeny of the Order Tubinares, Particularly the Shearwaters (*Puffinus*),' published by the author, in Tokyo, 1954, and printed by the Herald Co. Ltd., Japan, Nagahisa Kuroda attempts a taxonomic survey of the Order and a comparative study of the Shearwaters. Only main points can be made in the present review.

The author's taxonomic criteria are, chiefly, osteology and habit differentiation. As is well known, the past taxonomy of the Tubinares, from the time of L'Herminier (1829), through the eras of Jaquinot, Reinhardt, Garrod, Forbes, Gadow, Salvin, Godman, Pycraft, Lowe, Murphy and Peters, has rested mainly on osteology and external morphology, e.g. sternal, palatal and tarsal features, bill structure and plumage, with pterylosis, myology and visceral characters receiving passing attention. Kuroda has introduced habit (though Lowe referred to it) not as a primary character for it may be largely adaptative, but as a feature to be considered in conjunction with other criteria. His Introduction, in which he sets out his concepts of adaptation, could have been clearer and fuller.

His classification of the Order, occupying the first and shorter section of the work, shows no marked departure from previous literature. Four families are recognized—Diomedidae (albatrosses), Procellariidae (shearwater/petrel group), Hydrobatidae (storm-petrels), and Pelecanoididae (diving petrels). His habit differentiation is based mainly on flight pattern, and is used to support his conclusions. Procellariidae is divided into two sub-families—Puffininae (shearwaters) and Fulmarinae (fulmars, Cape Pigeon, Snowy Petrel, Prions, Blue, Gadfly and Bulwer's Petrels). Pelecanoididae, an extreme aquatic form, is seen as an early group with the remaining families evolving as flying forms. In Procellariidae, the sub-family Fulmarinae has remained aerial while Puffininae has developed a more or less secondary aquatic habit. The gadfly petrels, usually linked with the shearwaters on sternal characters, are here linked with the fulmars on cranial features.

The greater part of the paper is devoted to the shearwaters of sub-family Puffininae as an example of 'adaptive radiation'. The approach is along the lines already mentioned for the Order, and both extensive osteological analysis and habit study lead Kuroda to divide the group into two super-genera—*Procellaria* and *Puffinus* (the typical shearwaters). These latter he regards as comprising two extremely-constrasted types separated by intermediates. These extremes are the *Calonectris* spp. = *Puffinus leucomelas* (Temm.) and *Puffinus diomedea* (Scop.)—of light structure and well-developed flight, and the *Puffinus griseus/tenuirostris* group of aquatic habit and fluttering flight. The super-genus *Puffinus* contains fourteen species, some of which comprise a number of races. The following species of Peters' do not appear—*reinholdi*, *opisthomeles*, *auricularis*, *assinilis* and *persicus*.

The importance of the paper lies, however, in the reviewer's opinion, not so much in its proposed classification as in its attempt to make a comprehensive and balanced investigation, its insistence on the use of as many taxonomic characters as possible, and its introduction of new material without rejection of the traditional. Kuroda acknowledges also the lack of embryological and genetic evidence. Much in the paper can be barely mentioned, for example, the brief history of anatomical classification, and the detailed study of skeletal parts.

There are four pages of references, one photographic plate, and forty-two pages of line drawings and evolutionary maps. The text suffers slightly in its attempt to grapple with the intricacies of English grammar and spelling, and is perhaps rendered less clear by the several separate, though logically-placed summaries and conclusions. The paper is a notable compilation of data and research.—A. MCE.

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The date of publication was November 30, 1955.