

ARCTIC BIRDS OF CANADA. By L. L. SNYDER. Toronto University Press. London : Oxford University Press. 38s.

A compact and comprehensive guide-book intended primarily for the ornithologist fortunate enough to penetrate Canada's far north. The author is Curator of the Department of Ornithology in the Royal Ontario Museum, Toronto.

Some limit to the scope of such a volume must naturally be imposed and this has been taken as a line running along the treeless coasts of Yukon Territory and Mackenzie District east to Bathurst Inlet, thence south-eastward to Eskimo Point on Hudson Bay, across that bay to Portland Promontory on the east coast, thence eastward to Ungava Bay, and along its treeless coast to Cape Chidley.

The author gives a brief but fascinating introduction to the nature of Arctic birds, pointing out that a bird is well adapted to the rigours of such a climate in having a high and constant body-temperature and a low rate of radiation from the body-surface. Its whole economy must be adjusted to time, which allows only the barest margin for incubation and the young to reach adolescence ; courtship must be undertaken *en route* so that egg-laying starts immediately on arrival at the summer haunt. Many begin their annual moult long before the young are full-grown whilst others are still involved during their southward movement. The Arctic is virtually unavailable to birds of arboreal habit ; swimmers, divers and waders have the advantage and almost three-quarters of Arctic birds are adapted to aquatic or " sodden " habitats.

We are given examples of how, in spite of severity in their way of life, certain birds show remarkable characteristics. The annual journey of the Arctic Tern has no equal in the animal world ; from the eastern Arctic it regularly travels to and from the South Atlantic. Certain waders make trips of almost equal length, from high Arctic islands to Patagonia and back, and most surprising of all, it must be remembered that many of the young birds make their journeys alone, after the departure of their elders.

The bulk of this splendid book comprises a detailed description of the status, habitat (with map) and characteristics of seventy-two species comprised in ten different orders and in most cases there is an excellent sketch by T. M. Shortt to aid in identification.

This volume should be in the hands of every intending visitor to the Canadian Arctic. As such I myself would have welcomed

its mine of information some years ago when on a voyage to the home of the Blue Goose on Southampton Island, but those who only have the luck to see Arctic birds at the southern end of their migration would also be well advised to keep a copy.

N. R.

ANARE : AUSTRALIA'S ANTARCTIC OUTPOSTS. By PHILLIP LAW and JOHN BÉCHERVAISE. Melbourne (Oxford University Press). 45s.

This excellent and richly illustrated volume tells the tale of the Australian National Antarctic Research Expeditions from 1947 to 1957. The work has been prepared by Dr. P. G. Law, the Director of the Antarctic Division, Department of External Affairs, who has been responsible almost throughout for these vigorous Australian activities, both as organizer and often as leader in the field, together with his senior colleague in Anare, J. M. Béchervaise. The volume is designed for an intelligent if not learned public. The earlier pages are prefatory and narrative, while the main body of the volume is taken up by a series of short sections each built around several highest quality photographs, some of which are reproduced in colour.

The sections are organized in chapters such as "Macquarie Island", "Seals", "Birds", "Science", etc.

The first part of the volume is a reference work for details of organization, itinerary and personnel; for the rest it is a high-grade picture-book. It is all done extremely well and attractively. There are some excellent seal and penguin photographs and enough explanation to provide assurance that Australia keeps well in mind her duties in biological conservation.

Those who have a proper pride in British Commonwealth Antarctic activity will recognize that, in proportion to her population, Australia acts with the greatest vigour. But they will be saddened too by the recognition that in these days all Australian effort is dependent on chartered Scandinavian vessels, a source of shipping which was essential too for the recent Commonwealth Trans-Antarctic Expedition. The British Commonwealth countries concerned have quite inadequate shipping for the maintenance of their position and responsibilities in and around Antarctica. In fact all five of the mutually recognizing sovereign powers in Antarctica, namely Australia, France, New Zealand, Norway and the United Kingdom, have not a single ice-breaker between them. Without them and