

each of the major protagonists after the expedition. Whilst I am sure she was reading between the lines for some of the diaries, she has been careful to provide extensive and detailed documentation in the notes for all of the key events. The annotated notes and bibliography run to 65 pages, and I am certain that even the most expert readers will find previously unknown information within these. This is a very well written and researched volume that makes an important addition to our knowledge of one of the most important expeditions of the Heroic Age. You will enjoy reading it. (David Walton, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB1 0ET.)

### References

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### A COMPLETE GUIDE TO ARCTIC WILDLIFE.

Richard Sale. 2006. London: Christopher Helm. 464 p, illustrated, hard cover. ISBN 0-7136-7039-8. £40.00.  
 doi:10.1017/S0032247407006584

Any book that declares itself to be ‘A complete guide to’ any subject or area is asking for pedants to sift through it, to find reasons why that claim cannot be so. Yet Richard Sale does his best to encompass all aspects of Arctic wildlife, even including short sections on regional geology, climate, and humans in his introductory material. The result is a beautifully produced book, printed on high-quality paper that enhances the many superb illustrations. It is perhaps a little heavy to fit in a pocket when used as a field guide, but this must be balanced against the fact that it covers a vast geographical area, and it is ‘complete’ enough to cater to the needs of the average, non-specialist Arctic visitor. In this respect, it is comparable to Hadoram Shirihai’s *The complete guide to Antarctic wildlife*.

The book comprises five sections. The first is an introduction, in which the Arctic is defined, and brief notes are given on the region’s geological structure, snow and ice, glacial landforms, climate, human history and activity, range of habitats available for wildlife, speciation and biogeography, and how various organisms have adapted to life in the cold. The section concludes with an essay entitled ‘The fragile Arctic,’ in which the author highlights various subjects for concern in the region—airborne pollution, the exploitation of minerals and fossil fuels, ozone depletion, over-fishing, whaling, logging, and climate change.

The second section explains how to use the field guide. Rough references are provided (including specified editions), so serious bird enthusiasts can check Sale’s claims for taxonomy and geographical variation. However, these references are given as simply ‘Clements (6th edition)’ and ‘Howard and Moore (3rd edition),’ with no titles,

full author names, or publication details, and there is no reference or reading list. To the casual reader, who is unfamiliar with these tomes and who may wish to consult them, this may prove to be frustrating.

The third and by far the largest section is the ‘Field guide to Arctic birds.’ Most entries are accompanied by excellent photographs, and each section (divers and grebes, geese, raptors, etc) has a colour plate representing each nominate race. The fourth section is the ‘Field guide to Arctic mammals,’ and includes shrews, rodents, lagomorphs, ungulates, carnivores, pinnipeds, and cetaceans. The final and fifth section is entitled ‘A visitor’s guide to the Arctic,’ and provides a very brief description of specific areas—for example, Jan Mayen, Bear Island (Bjørnøya), Russia, and Canada. The information is brief enough to be unhelpful, and a list of further reading would not have gone amiss. There is a three-page index, which is short for a book in excess of 460 pages, and the reader can look up ‘walrus’ but not ‘hooded seal’ (which is under ‘seal’).

Each entry begins with a description of pelage or plumage (‘identification’), a list of species with which the animal may be confused (‘confusion species’), body size, ‘voice’ (birds) or ‘communication’ (mammals), distribution (illustrated with a small map for easy reference), diet, breeding habits, and taxonomy and geographical variation. There are a few annoyances. First, all the distribution maps include a blank-white part, indicating ‘areas of permanently frozen sea’ (see page 54). In the section on marine mammals, this implies these animals are never found in leads, polynias, or in the pack ice at all, which is misleading. Secondly, the bird section uses orange shading to illustrate distribution, but some orange is two-tone (see, for example, the entry for the short-eared owl on pages 285–286, where Alaska and parts of Norway are lighter). Is this deliberate, or an eccentricity of printing? The same is true in the chapter on marine mammals, where two shades of pink are used (see, for example, the entry for the bearded seal on page 421). And the cetacean chapter does not have a diagram showing comparative fin shapes, blows, and other characters traditionally used for identifying whales at a distance. As anyone who has engaged in whale-watching will know, these animals rarely oblige with a complete showing of themselves, so knowing that fin whales have a pale ventral area is not always a practical diagnostic tool. This omission reduces the book’s usefulness as a field guide for whales.

Finally, there are one or two small errors of fact. For example, the lowest temperature ever recorded in the Antarctic was  $-89.6^{\circ}\text{C}$  (Clarkson 2006), not  $-88^{\circ}\text{C}$  as stated on page 19, and katabatic winds are not restricted to the polar regions, as stated on page 20. Nevertheless, Sale should be commended for his work, and *A complete guide to Arctic wildlife* will be a welcome edition to the bookshelves of any collector of polar books. (Liz Cruwys, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

### References

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**LA ANTÁRTICA Y EL AÑO GEOFÍSICO INTERNACIONAL: PERCEPCIONES DESDE FUENTES CHILENAS, 1954–1958.** M. Consuelo León Wöppke, Mauricio Jara Fernández, Jason Kendall Moore, Nelson Llanos Sierra, and Pablo Mancilla Gonzalez (Editors). 2006. Valparaíso, Chile: Editorial Puntángelos Universidad de Playa Ancha. 218 p, illustrated, soft cover. ISBN 956-310-324-6.  
doi:10.1017/S0032247407006596

There is a lively and productive group of Antarctic historians working in the twin cities of Valparaíso and Viña del Mar on Chile's Pacific coast. The latest publication by these scholars is *La Antártica y El Año Geofísico Internacional*, a collection of Chilean source materials dealing with Antarctica around the time of the International Geophysical Year (IGY) of 1957–58. The book was presented at the second SCAR History of Science Workshop, held in Santiago, Chile, in September 2006.

This book is a valuable contribution to understanding the IGY, since it offers a different perspective of this massive international research endeavour. As the introduction states—and as many of the documents attest—Chile often struggled in reconciling its genuine interest in Antarctic science with economic constraints. This relatively small South American country simply could not afford to take part in the IGY on the same scale as several of the other participants. Nevertheless, the Chilean press proudly reported Chile's scientific contributions to the IGY, and kept the public up to date with the country's activities in Antarctica. It was with sadness that, in March 1958, Chilean newspapers had to report that a fire started by a petrol stove had destroyed Base Risopatrón, the only station that Chile constructed specifically for the IGY. *La Unión de Valparaíso* stoically declared that Chilean scientists would continue their research at the nearby Base O'Higgins. Taken together, the documents leave the impression that there was a growing interest through the period among the Chilean public in Antarctic science for its own sake. Numerous articles triumphantly reported scientific discoveries, without regard for the nationality of the scientists involved.

Despite the genuine interest in Antarctic science, the political aspects of the IGY were never far from the surface. There was an ongoing preoccupation with Soviet activity in Antarctica, and even a worry that the communists might conduct nuclear tests in Antarctica (*El Diario Ilustrado* 17 February 1956). But even in the face of these threats, Chilean newspapers maintained a sense of

humour. Under the headline 'Cold Reception for Russians in a Region Untouchable to the Reds,' *La Estrella de Valparaíso* reported not the establishment of a communist military submarine base, but the reaction of a colony of king penguins to the presence of photographers from a Russian expedition. As Chilean journalists got caught up in the drama of the Commonwealth Trans-Antarctic Expedition of 1955–58, they seem to have forgotten the lingering hostilities caused by the sovereignty dispute with Great Britain and Argentina. When Fuchs completed his epic traverse of the Antarctic continent, *La Estrella* proclaimed him the 'conqueror of Antarctica.'

This book is, in many ways, a continuation of the extremely useful *Antarctica: Testimonios Periodísticos 1947–1957*, published by Consuelo León and Mauricio Jara in 2003. But whereas the earlier work was limited to newspapers published in Valparaíso, this new book includes newspapers from Santiago, primary documents from the Foreign Ministry and the Navy, an extensive biography, and 10 pages of photos and maps taken from various sources. The inclusion of government documents alongside newspaper reports is a particularly welcome addition to this volume, which will hopefully be continued in any future publications.

The Foreign Ministry documents are taken from various files of diplomatic correspondence. There is a particular focus on letters from Juan Bautista Rossetti, the Chilean Ambassador in Paris, concerning the third IGY planning meeting held in Brussels in 1956. These documents reveal official fears that the IGY might somehow undermine Chilean sovereignty, and they show that Chilean diplomats recognized that they had to defend their country's rights. Correspondence with Chilean diplomats in Australia concerns the threat of continued Russian involvement in Antarctica and the possibility that Russia might be building submarine bases there. Although they took these threats seriously, the Chileans seem to have been a little less concerned by the communist presence in Antarctica than were their Australian colleagues. As the IGY came to an end, it looked increasingly like some form of international solution would be imposed upon Antarctica. A particularly interesting internal Foreign Ministry circular from February 1958 discusses the Chilean response to internationalisation. Alberto Sepúlveda, the Foreign Minister, formulated a list of objections to these plans, concluding: 'the Government of Chile must reject any proposition that implies internationalization, or the creation of a condominium, in any part of its national territory, whether in Antarctica, America, or in the Islands of the South Pacific' (page 191). Such an attitude reveals that the discussions that would lead to the Antarctic Treaty of 1959 were not universally popular.

The handful of documents from the Servicio Hidrográfico y Oceanográfico de la Armada are particularly valuable since foreign researchers are not always permitted access to this archive. These documents reinforce the idea that the Chileans struggled to pay for their participation in the IGY. For example, in a letter to the