

place does the story of the death of Toni Kurz on the Eiger have in a book about Canada's mountains?)

The photographs are beautiful in this book and it will certainly be appreciated by anyone who is interested in the mountains. It is a great book to pick up and leaf through, but it could have been so much more.

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BERING'S VOYAGES WHITHER AND WHY; RAYMOND H. FISHER; *University of Washington Press; Seattle and London; 1978; 217 xii pp., maps, appendices, bibliography, index; \$17.95.*

On June 4, 1741, Captain Vitus Bering in *St. Peter* and Captain Aleksei Chirikov in *St. Paul* sailed east from the Kamchatka port of Avatcha. The ships became separated, but by the time Chirikov had returned to Kamchatka in *St. Paul* and the survivors of Bering's crew had struggled back to Siberian shores, both in the autumn of 1741, these officers of the Russian Navy and their crews had accomplished what is traditionally accepted as the European discovery of Alaska. Until publication of Professor Fisher's *Bering's Voyages*, the two-volume work of F. A. Golder (*Bering's Voyages, An Account of the Efforts of the Russians to Determine the Relation of Asia and America*, American Geographical Society Research Series No. 1, New York, 1922, reprint Octagon Books, New York, 1968) has been the most authoritative English language treatment of the purpose and conduct of the 1741 voyage.

Golder's view, shared by many, was that the 1741 sailing was undertaken to more definitively answer the question "are Asia and America joined?", the basis for a 1728 Bering expedition, and one which Golder felt had not been answered to the satisfaction of the Russian government.

Fisher's *Bering's Voyages* challenges that position by citing evidence that the separation question had been answered by the 1648 voyage of Semen Dezhnev and then examining with thoroughness and detail whether or not the results of Dezhnev's investigations were known to those chartering Bering's explorations; and then, in successive chapters, "The Intended Route and Destination", "The Evidence from the Voyage", "Bering's Proposals", and "The Second Kamchatka Expedition: Plans and Objectives". A final chapter concludes that the purpose of Bering's 1728 voyage was to reconnoiter the coast of North America and that the purpose of the 1741 voyage was to establish Russian sovereignty in northwest America.

Dr. Fisher is Professor Emeritus of History at the University of California at Los Angeles, author of *The Russian Fur Trade, 1550-1770* (University of California Press, 1943), several articles having to do with the settlement and exploration of Siberia and northwest America, and a guide to the records of the Russian-American Company held in the National Archives of the United States. His years of study have resulted in a publication which will require rethinking of many previously held opinions about attitudes of the Russian government toward exploration and settlement on the North American continent.

It is disappointing that the care which the author devoted to his scholarship is not evidenced in the printing of *Bering's Voyages*, for this reviewer's copy, at least, was marred by having pages 180, 181, 184 and 185 blank. This destroys the usefulness of Appendix I (Bering's Account of His First Voyage) and Appendix II (Kirilov's Memorandum on the Kamchatka Expedition), and it is hoped that the publisher noted and corrected this flaw in other copies.

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THE MOSSES OF ARCTIC ALASKA; STEERE, W. C.; *Bryophytorum Bibliotheca 14, J. Cramer, Postfach 48, 3301 Lehre, West Germany; 1978; i-x, 508 pp. (DM 150, -).*

Until recently, the flora of the North American arctic was very poorly known. Not only was there an imperfect knowledge of the species that were present but, in particular, little was known of the distribution and ecology of these species. Furthermore, most publications are scattered in journal articles, many of which are hard to find or have been little publicized. Books by A. E. Porsild on the Canadian Arctic Archipelago, I. L. Wiggins and J. H. Thomas on the Alaskan Arctic Slope, and the superb flora by E. Hulten on Alaska and neighbouring Territories have gone a long way to bring together knowledge on the vascular plants but until the present book, similar treatments have not appeared on the algae, fungi, lichens and bryophytes.

The author, William Campbell Steere, is one of the best known and respected botanists in the world as evidenced by the lengthy article on his life and work that H. Crum published in *The Bryologist* in 1977 (80: 662-694). Steere devoted part of ten field seasons from 1951 to 1974 to the study of Alaskan arctic bryophytes with research staged from the Arctic Research

Laboratory at Barrow. Duties as Head of the New York Botanical Garden prevented the complete working-up of the data until after his retirement in 1972.

The book includes an introduction, a definition of what is meant by Arctic Alaska, a discussion of the arctic environment, the phytogeographic and physiographic provinces in the area, the floristic elements that are present, remarks on how the relative abundance of the species was designated, and a gazeteer of collecting localities. The bulk of the text, however, is devoted to an annotated catalogue in which each species is accompanied by a list of specimens examined, published reports and comments on relative abundance, ecology and geographic distribution. Whenever possible, Steere has added a dot map of the North American distribution of the species. These maps, in most cases, have been previously published but many have been modified by the addition of further dots, usually of additional sites from northern Alaska. Informative nomenclature notes have been added where pertinent. Keys and illustrations are not included but, where needed, discussion and/or references are given to enable the reader to find this information.

The moss flora of Arctic Alaska totals 415 species but may reach 500 with further study. This is astonishingly high as the area "has a substantially larger moss flora, in numbers of species, than most areas of North America of comparable size in much more favorable climates, and with a greater range of physiographic and floristic zones". This unusual situation is partially due to the fact that much of the area was unglaciated during the Wisconsinan thus allowing the survival of a number of species that have disjunct populations in Arctic Alaska and in the eastern United States. It is also due to the close proximity of Asia and the resultant presence of a number of amphi-Beringian species.

Strong features of this book are the bringing together of published information on the mosses of northern Alaska plus the incorporation of the author's large personal collections and observations and those of others who have worked in the area. Also commendable is the extent to which the author has sought out and incorporated constructive criticism from numerous outstanding bryologists.

This book is highly recommended. It should be in the reference library of all who are seriously working on the flora of the arctic.

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AN ARCTIC ATLAS: Background Information for Developing Marine Oilspill Countermeasures; *Fenco Consultants Ltd., Calgary, and F. F. Slaney and Company Ltd., Calgary; Research and Development Division, Environmental Emergency Branch, Environmental Protection Service, Ottawa; 1978; 481 pp.; No price listed.*

The purpose of this atlas is, as stated in the introduction, to present, under one cover, a multidisciplinary overview of information which has relevance to marine oil spills in the Canadian Arctic and in the Labrador Sea. It was prepared by Fenco Consultants and F.F. Slaney for the Environmental Protection Service of the federal government as a project of the Arctic Marine Oil Spill Program. It is indicated that only a limited number of these atlases have been printed thus far, which is perhaps not surprising considering its size.

An effort has been made to present information over the Canadian Arctic from the Beaufort Sea to the west coast of Greenland, and south to the Labrador Sea. Hudson Bay is not treated. A loose-leaf atlas format stresses map presentation with some explanatory material inserted. Subjects covered are geology and petroleum development, meteorology and oceanography, ice, biology, and social. For overview presentation the maps are at scale 1:15,282,000 while more detailed regional information is mapped at a scale of 1:2,817,000.

In the section on geology and petroleum development, 22 sheets chart the bathymetry over the area mentioned above. The data for the smoothed display is largely from Canadian Hydrographic Service sources though, surprisingly, data from the National Office of Lands and Mapping, Hungarian People's Republic, Budapest, are used in the Foxe Basin area. Six pages are devoted to describing and mapping the shoreline features, and outlining implications of oil impingement upon them. Seventeen maps show the present extent of oil and gas lease and permit blocks. An overview of geological basins stressing those with high potential for petroleum discovery occupies one page. Three pages are devoted to descriptions of well drilling techniques, offshore structures, and present shipping routes. As a section I feel it is done rather well. Some items, such as permafrost occurrence, and sea-bed characteristics are missing.

After mapping meteorological stations the meteorological section charts values of mean air temperature and mean total precipitation for the months of January and July. Thirteen pages of graphs follow showing monthly values of mean daily minimum temperature, mean daily maximum temperature, monthly extreme maximum and extreme minimum temperature