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DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES
F. V. HAYDEN, GEOLOGIST-IN-CHARGE

MISCELLANEOUS PUBLICATIONS—No. 12

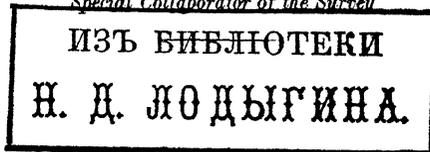
HISTORY
OF
NORTH AMERICAN

PINNIPEDS

A MONOGRAPH OF THE
WALRUSES, SEA-LIONS, SEA-BEARS
AND
SEALS
OF
NORTH AMERICA

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WASHINGTON
GOVERNMENT PRINTING OFFICE

1880



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PREFATORY NOTE.

UNITED STATES GEOLOGICAL AND
GEOGRAPHICAL SURVEY OF THE TERRITORIES,
Washington, D. C., July 1, 1880.

The present series of monographs of the North American *Pinnipedia*, by Mr. J. A. Allen, may be considered as a second installment of the systematic History of North American Mammals, of which the Fur-Bearing Animals by Dr. Elliott Coues, U. S. A., forming No. 8 of the Miscellaneous Publications of the Survey, was published as a specimen fasciculus. The first monograph of this series, treating of the Walruses, was prepared nearly three years since for publication in the Bulletin of the Survey, but before it was quite ready for the press, Dr. Coues, owing to his pressing engagements in other directions, invited Mr. Allen to extend his treatise to embrace the entire suborder of the Pinnipeds, to which he had already given special attention, with a view to its incorporation as a part of the proposed general History of North American Mammals. Since, however, considerable time must elapse before the whole work can be completed, it has been thought best not to delay the publication of the part already prepared relating to the Pinnipeds.

As nearly all of the species belonging to this group found in the northern hemisphere are members of the North American fauna, the present treatise is virtually a monograph of all the species occurring north of the equator, and includes incidentally a revision of those of other seas. The literature of the whole group is not only reviewed at length, but the economic phase of the subject is treated in detail, embracing, in fact, a general history of the Sealing industries of the world. The technical treatment of the subject is based mainly on the rich material of the National Museum, supplemented at many important points by that of the Museum of Comparative Zoölogy of Cambridge, which, through the kindness of the directors of these institutions, was generously placed at the author's disposal. That contained in the other principal museums of the country

was also examined, so that so far as the species of the northern hemisphere is concerned the amount of material consulted doubtless far exceeds that ever before studied by any single investigator of the group. For the biographical part, to which much space has been allotted, matter has been freely gathered from all available sources. In addition to the results here first published, the work may be considered as a compendium of our present knowledge of the subject.

In regard to the need of a work like the present, it may be stated that with the exception of Dr. Theodore Gill's important "Prodrome" of a proposed monograph of North American Pinnipeds, published in 1866, there has been no general treatment of the species since the excellent compilations of Drs. Harlan and Godman appeared, now more than half a century ago. Respecting foreign works, nothing has been recently published covering the ground here taken beyond a very general synopsis of the technical phases of the subject. The best accounts of the species occurring along the shores of Europe are in other languages than English, while no general history of the economic relations of the subject exists. In relation to the important Fur Seal Fisheries of Alaska, the author has been able to present *in extenso* the results of Captain Charles Bryant's long experience at the Fur Seal Islands, where for nearly ten years he was the government agent in charge of the islands. Although not received until the article on this species had been transmitted to the printer, it proves to be, to only a small degree, a repetition of the account given by Mr. Elliott, also reproduced at length. The history Captain Bryant gives of the changes in the numbers and relations of the different classes of these animals at the rookeries, under the present system of management of the Fur Seal business, forms a valuable basis for generalization in regard to the future regulation of this industry, and is also an important contribution to the life-history of the species.

The cuts, some thirty in number, illustrating the cranial characters of the Walruses, were drawn for the present work by Mr. J. H. Blake, of Cambridge, and engraved by Messrs. Russell and Richardson, of Boston. The Survey is indebted to Professor Baird, Secretary of the Smithsonian Institution, for a series of sixteen original figures, engraved by Mr. H. H. Nichols, of Washington, from photographs on wood, illustrating the skulls of *Callorhinus ursinus*, Peale's "*Halichærus antarcticus*," *Cystophora cristata*,

and *Macrorhinus angustirostris*; also to the Zoölogical Society of London for electros of Gray's "*Halicyon richardsi*," and of a series of historic figures of the walrus published in the Society's "Proceedings," by the late Dr. Gray, and to the proprietors of "Science Gossip," for electros of the full-length figures of seals. These were received through Dr. Coues, who also furnished the full-length views of *Eumetopias stelleri* and *Callorhinus ursinus*.

Mr. Allen desires me to express, in this connection, acknowledgments of his indebtedness to Prof. Spencer F. Baird, Secretary of the Smithsonian Institution, and to Prof. Alexander Agassiz, Director of the Museum of Comparative Zoölogy, for the liberality with which they have placed at his service the rich material relating to this group of animals contained in the museums respectively under their charge; to Prof. Henry A. Ward, of Rochester, N. Y., for the use of much valuable material relating to the Walruses that he would not otherwise have seen; and to Captain Charles Bryant, late special agent of the United States Treasury Department, for his report, kindly prepared at the author's request, for the present work. Also to Dr. Elliott Coues, Secretary of the Survey, for the use of many of the cuts, for valuable suggestions during the preparation and printing of the monograph, and revision of the proof-sheets.

F. V. HAYDEN,
United States Geologist.

LETTER OF TRANSMITTAL.

CAMBRIDGE, MASS.,
May 25, 1880.

SIR: I have the honor to transmit herewith for approval and for publication the "History of North American Pinnipeds," being a monograph of the Walruses, Sea-Lions, Sea-Bears, and Seals of North America.

Very respectfully, your obedient servant,

J. A. ALLEN.

F. V. HAYDEN,
Washington, D. C.