

A List of American and Soviet Institutions Possessing Collections of Osteological Specimens from Pinnipeds and Sea Otters

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ABSTRACT

Because different populations of the same species of pinnipeds and sea otters often have different population parameters and histories of exploitation, modern conservation policy calls for identification of such management units below the specific level. To do so often requires analysis of large numbers of specimens from a morphological aspect, particularly by study of skeletal materials. By mutual agreement, to assist Soviet and American researchers in locating major sources of osteological specimens, we have compiled a list of the collections in the USA and USSR. Some 13,000 specimens of pinnipeds and 1,200 of sea otters, in 70 institutions, are recorded.

РЕЗЮМЕ

Разные популяции одного вида ластоногих, а также калана часто имеют разные параметры запасов и историю промысла. По этим причинам с позиций современной стратегии охраны необходимо идентифицировать такие популяции внутри вида.

В связи с этим зачастую требуется анализ большого количества морфологического материала, особенно по остеологии. По взаимному соглашению в целях оказания помощи американским и советским исследователям в определении местонахождения остеологического материала составлен настоящий список коллекций в США и СССР. Зафиксировано около 13000 экземпляров по ластоногим и 1200 по каланам в 70 учреждениях обеих стран.

INTRODUCTION

A major emphasis in modern conservation of marine mammals is on management by population or stock, because different populations of the same species quite often have different histories of exploitation and different levels of natural mortality and reproduction. A sound management policy for one population is not necessarily applicable to another population of the same species. For that reason, the International Whaling Commission and other management bodies, national as well as international, have increasingly moved to management on a stock-by-stock basis.

For many, if not most, marine mammals, population variation and subdivision within the species are very poorly known or understood. The reasons for this are that 1) the decision for or against subdivision below the species level is based on morphology (osteology, coloration, body size and shape, etc.), and 2) morphological differences at that level are not absolute and require rigorous analysis of large numbers of specimens. Thus, modern management relies on the availability of large numbers of specimens. Unfortunately, marine mammal specimens are difficult and expensive to collect, process, and store. Consequently, most museums and other repositories possess only synoptic collections, or at best, a few dozen specimens of one or two species. For that reason, one usually

must examine the specimens in many collections before reaching a conclusion on whether a particular subdivision of a species is justified. Before a collection can be used, of course, one must know what is in it; it must be cataloged and documented in a readily accessible publication or report.

Because of growing Soviet-American collaboration in research and management programs for marine mammals of mutual interest, the US-USSR Marine Mammal Project meetings in La Jolla, USA, in 1977 and in Ulan Ude, USSR, in 1978 endorsed the concept of cataloging world collections of marine mammal osteological specimens and agreed to assist and expand an existing cataloging effort by the U.S. National Museum of Natural History. This program has been underway for several years, with many major collections in the United States and Europe already documented. Collections in the Soviet Union have been included very recently and on a small scale. As the first step in a comprehensive cataloging program, specialists in the United States and the Soviet Union agreed to compile and exchange lists of collections which contain marine mammal specimens. The present list was compiled from that exchange.

METHODS

A total of 151 institutions, including universities, colleges, museums, government agencies, and oceanaria were surveyed. A list of institutions with marine mammal specimens compiled by Mead in 1973 served as a starting point for this survey. Other collections were located by reviewing catalogs of museums and educational institutions and published lists (Anderson et al. 1963:

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Katz and Katz 1965; Choate and Genoways 1975; Podolsky 1975; Wolman 1978⁴). Each institution was contacted first by telephone. If the institution had marine mammal osteological specimens (a specimen may be anything from a single bone to a complete skeleton) an estimate of the number of specimens was obtained and a checklist questionnaire was mailed to the institution in order to obtain a more detailed inventory of the collection. Eighty-five percent of the questionnaires were returned.

RESULTS

Of the institutions surveyed, 70 reported pinniped osteological specimens (Table 1), and 81 did not. Six institutions reported only total numbers of marine mammal specimens.

Of the approximately 17,300 marine mammal specimens located, about 75% were pinnipeds and 7% were sea otters; the rest were cetaceans and sirenians. As an early form of the questionnaire

included only cetaceans, pinnipeds, and sirenians,⁵ the numbers indicated for sea otters probably are low. The U.S. National Museum of Natural History has the largest collection of pinnipeds, totaling about 2,500 specimens; the largest collection (about 1,400 specimens) in the USSR is in the Zoological Institute of the Academy of Sciences in Leningrad.

LITERATURE CITED

- ANDERSON, S., J. K. DOUTT, and J. S. FINDLEY.
1963. Collections of mammals in North America. *J. Mammal.* 44:471-500.
- CHOATE, J. R., and H. H. GENOWAYS.
1975. Collections of recent mammals in North America. *J. Mammal.* 56:452-502.
- KATZ, H., and M. KATZ.
1965. *Museums, U.S.A.; a history and guide.* Doubleday, Garden City, N.Y., 395 p.
- PODOLSKY, A.
1975. *Education directory, higher education.* U.S. Gov. Print. Off., Wash., D.C., 575 p.

⁴Wolman, A. A. 1978. *International marine mammal scientists directory—1978.* Processed rep., 81 p. National Marine Mammal Laboratory, National Marine Fisheries Service, NOAA, 7600 Sand Point Way NE., Seattle, WA 98115.

⁵A list of cetacean and sirenian specimens in American and Soviet collections will be presented in Volume 2 of this publication series.

Table 1.—Institutions in USA and USSR possessing pinniped and sea otter osteological specimens, as of January 1979, based on survey.

Name of institution	No. of specimens		Contact
	Pinnipeds	Sea otters	
Alaska Dep. Fish & Game Subport Bldg. Juneau, AK 99801	730	—	D. McKnight Game Research Chief
American Museum of Natural History Central Park W. at 79th St. New York, NY 10024	~750	—	S. Anderson Curator of Mam- mals
Bernice P. Bishop Museum P.O. Box 6037 Honolulu, HI 96818	15	—	A. C. Ziegler Vert. Zoologist
Calif. Academy of Sciences Dep. Birds & Mammals Golden Gate Park San Francisco, CA 94118	400	16	L. C. Binford Chairman
Calif. Polytechnic State Univ. Biological Sciences Dep. San Luis Obispo, CA 93409	43	119	A. I. Roest
Calif. State University Dep. Biology Hayward, CA 94542	9	1	H. Cogswell Curator
Calif. State University Dep. Biology 6101 East 7th Street Long Beach, CA 90804	17	3	Dr. Huckaby
Calif. State University Dep. Biology 5151 State University Dr. Los Angeles, CA 90032	6	—	
Calif. State University Dep. Biological Sciences 6000 J Street Sacramento, CA 95819	18	—	J. Tilley Museum Curator

Carnegie Museum 4400 Forbes Avenue Pittsburgh, PA 15213	463	—	Curator of Mam- mals
Charleston Museum 121 Rutledge Avenue Charleston, SC 29401	~4	1	A. Sanders Curator of Nat- ural Sciences
Cornell University Bird & Mammal Museum, Bldg. 3 Ithaca, NY 14850	53	—	R. G. Bauer Curatorial Asso- ciate
Denver Museum of Natural History ¹ City Park Denver, CO 80205	27	—	H. C. Wichers Curator of Mam- mals
Field Museum of Natural History Roosevelt Rd. at Lake Shore Dr. Chicago, IL 60605	189	—	S. Walchuk Division of Mammals
Florida State Museum University of Florida Gainesville, FL 32611	14	—	S. Humphrey
Harvard University Museum of Comparative Zoology Cambridge, MA 02138	566	—	E. Rutzmoser Curatorial Asst. of Mammals
Humboldt State University Dep. Zoology Arcata, CA 95521	81	—	R. Sullivan Vert. Zoology Museum
Los Angeles County Museum of Natural History 900 Exposition Blvd. Los Angeles, CA 90007	333	5	D. R. Patten
Louisiana State University Museum of Zoology Baton Rouge, LA 70803	1	—	J. P. O'Neal
Marineland of Florida Route 1, Box 122 St. Augustine, FL 32084	1	—	R. Jenkins

Michigan State University The Museum East Lansing, MI 48823	24	—	J. Matson	Southern Illinois University Zoology Department Carbondale, IL 62901	4	2	E. C. Gallbreath
Monkshire Museum of Science Hanover, NH 03755	3	—	R. Chaffee	University of Alaska Museum University of Alaska Fairbanks, AK 99701	487	8	S. MacDonald
National Marine Fisheries Service La Jolla Laboratory P.O. Box 271 La Jolla, CA 92038	2	1	W. F. Perrin, L. J. Hansen	University of California Museum of Vertebrate Zoology 2593 Life Sciences Bldg. Berkeley, CA 94720	262	28	W. Z. Lidicker, Jr. Curator of Mam- mals
National Marine Fisheries Service Marine Mammal Division 7600 Sand Point Way, Bldg. 32 Seattle, WA 98115	271	3	C. Fiscus	University of California Dep. Zoology Davis, CA 95616	17	—	M. Hildebrand
National Museum of Natural History Division of Mammals Smithsonian Institution Washington, DC 20560	~2,500	500	J. G. Mead Curator of Mar- ine Mammals	University of California School of Veterinary Medicine Davis, CA 95616	10	—	L. M. Julian
New England Aquarium Central Wharf Boston, MA 02110	15	1	L. Garibaldi Curator	University of California Biology Dep., Dickey Collections Los Angeles, CA 90024	28	—	J. Miller Curator
New York State Museum Washington Avenue Albany, NY 12224	1	—	P. Connor	University of California Santa Cruz, CA 95060	~10	—	T. Dohl
North Carolina State Museum P.O. Box 2281 Raleigh, NC 27611	3	—	D. Lee Curator of Mam- mals	University of Colorado Museum Boulder, CO 80302	14	—	S. K. Wu Curator of Zool- ogy
North Carolina State University Dep. Zoology Raleigh, NC 27607	7	—	Dr. Barkaloo	University of Connecticut Dep. Biological Sciences Storrs, CT 06268	10	—	R. Dubos
Ohio Historical Society ¹ Natural History Division Ohio Historical Center Columbus, OH 43211	3	—	C. W. Albrecht Curator of Nat- ural History	University of Kansas Museum of Natural History Lawrence, KS 66044	~12	~1	R. S. Hoffman Curator of Mam- mals
Oklahoma State University Museum of Natural History Stillwater, OK 74074	10	2	B. Glass	University of Miami School of Marine Sciences 4600 Rickenbacker Causeway Miami, FL 33149	4	—	J. Reynolds
Oregon Institute of Marine Biology Charleston, OR 97420	2	2	J. Hanna	University of Michigan Museum of Paleontology Ann Arbor, MI 48104	2	—	Dr. Smith
Oregon State University Marine Science Center Newport, OR 97365	17	—	B. Mate	University of Michigan Museum of Zoology Ann Arbor, MI 48104	24	—	P. Myers
Peabody Museum of Natural History Yale University New Haven, CT 06520	66	—	J. Ostrom	University of Missouri Museum of Zoology Columbia, MO 65201	60	—	Dr. Elder
Peabody Museum of Salem Salem, MA 01970	2	—	S. Pidugalls	University of Montana Dep. Zoology Missoula, MT 59801	19	—	
Philadelphia Academy of Science 19th St. and Parkway Philadelphia, PA 19103	137	—	F. B. Gill	University of New Mexico Dep. Biology Albuquerque, NM 87106	10	—	J. Finley
Princeton University Museum of Natural History Princeton, NJ 08540	15	—	D. Baird Geology Dep.	University of Notre Dame Dep. Biology Notre Dame, IN 46556	1	—	
San Diego Natural History Museum P.O. Box 1390 San Diego, CA 92112	130	—	R. M. Chandler Curator of Birds & Mammals	University of Oregon Museum of Natural History Eugene, OR 97403	17	2	E. Gustafson
San Jose State University 125 South Seventh Street San Jose, CA 95162	103	—	J. Vollenweider Museum of Birds & Mammals	University of Puget Sound Puget Sound Museum of Natural History Tacoma, WA 98416	374	34	E. Kritzman
Santa Barbara Museum of Natural History 2559 Puesta del Sol Road Santa Barbara, CA 93105	85	48	C. Woodhouse Head, Marine Mammal Pro- gram	University of Texas, Austin Texas Memorial Museum 2400 Trinity Austin, TX 78705	~6	—	R. Martin

University of Washington Burke Museum Seattle, WA 98195	53	—	J. Rozdilsky Zoology Div.	Academy of Sciences of USSR Zoological Institute Leningrad, USSR	1,426	261	I. M. Gromov
Virginia Polytechnic Institute and State University Dep. Biology Blacksburg, VA 24061	6	—	J. Crawford	Atlantic Research Institute of Fisheries and Oceanography Kaliningrad, USSR	372	0	V. A. Zheglov G. V. Rezvov I. E. Filatov
Waikiki Aquarium 2777 Kalakaua Avenue Honolulu, HI 96815	1	—	L. Taylor	Pacific Research Institute of Fisheries and Oceanography Vladivostok, USSR	379	195	G. M. Kosygin
Washington State University Dep. Zoology Conner Zoology Museum Pullman, WA 99164	30	—	R. E. Johnson	Magadan Section Pacific Research Institute of Fisheries and Oceanography Magadan 685013, USSR	1,247	0	G. A. Fedoseev
Moscow State University Zoological Museum Moscow, USSR	1,124	0	O. L. Rossolimo I. R. Pavlinov	Petropavlovsk Section Pacific Research Institute of Fisheries and Oceanography Petropavlovsk-Kamchatka, USSR	16	0	

¹Status of collection as of 1973.