

# NOAA Technical Memorandum NMFS



SEPTEMBER 2004

## PARTIAL CATALOG OF CETACEAN OSTEOLOGICAL SPECIMENS IN RUSSIAN MUSEUMS

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U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southwest Fisheries Science Center

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# PARTIAL CATALOG OF CETACEAN OSTEOLOGICAL SPECIMENS IN RUSSIAN MUSEUMS

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### U.S. DEPARTMENT OF COMMERCE

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## PREFACE

An effort to compile a complete catalog of cetacean specimens in museums in the former Soviet Union began in 1976 and continued into the 1980s. With the collapse of the Soviet Union and the death of one of the collaborators, it was not possible to complete the survey. We present here the preliminary results for four institutions: the Zoological Institute of the Academy of Sciences in St. Petersburg, the Zoological Museum of Moscow State University, and the museums of two major fishery research centers, the Pacific Research Institute of Fisheries and Oceanography (TINRO) in Vladivostok and the Atlantic Research Institute of Fisheries and Oceanography (ATLANTNIRO) in Kaliningrad, with the hope that the information will be expanded and updated by marine mammalogists working in Russia now or in the future.

We stress that this catalog is now some 15--20 years out of date and that new material has doubtless been added to some of these collections. We also note that we have received informal reports that the collection at TINRO has been largely destroyed by a storm that flooded the museum.

## INTRODUCTION

Many problems remain in the taxonomy of the cetaceans (Reeves et al. 2004). One reason for this is that cetacean osteological specimens are very difficult to collect, to prepare and to curate and store. If progress is to be made in resolving the many taxonomic difficulties, so that conservation and management of cetaceans can proceed on a rational, populational basis, full use must be made of all existing materials. Too often in the past, taxonomic decisions have been based on small numbers of specimens and have not stood up with time. It is essential that modern work be based on as many specimens as are available. It is with this goal in view that we present this catalog, to document the existence of a large number of specimens so that they may be included or considered in future taxonomic studies.

## METHODS

One of us (WFP) examined the specimens and data files of the Zoological Institute of the then Academy of Sciences of the U.S.S.R. (ZMAN) in St. Petersburg (with GES) and the Zoological Museum of Moscow State University (ZMMGU) in September 1976. We reviewed the collections again in 1988 and 1989, to check for additions and to settle some questions of identification and provenance. Each specimen was physically examined, and, where possible, condylobasal length of the skull was taken. At later dates, the collections in the museums at TINRO and ATLANTNIRO were examined by the late A. A. Kuz'min. We did not examine specimens preserved in alcohol or collections of baleen.

The specimens in each collection are listed separately below. Within species, listing is in order of the museum numbers. Classification and scientific names follow Perrin et al. (2002). The number of specimens in the collection follows the scientific name. For each specimen, the entry consists of the following items where available, separated by semicolons:

1. Nature of specimen (*cran.*= cranium, *mand.*= mandible, *skel.*= skeleton) and (for the St. Petersburg material) location in museum.
2. Sex (*M* or *F*), sexual maturity (*sex. mat.* or *sex. immat.*), cranial maturity (*c. mat.* or *c. immat.*), physical maturity (*p. mat.* or *p. immat.*), body length in cm (*BL*), weight in kg (*WT*) and condylobasal length in mm (*CB*).
3. Collection date, collector (with field number in parentheses) or source, and locality (translated and expanded if appropriate).
4. Scientific name formerly on label, if different from name under which listed here, in quotation marks.
5. Published reference(s) to the specimen.
6. Comments [in square brackets].

We used distal fusion of the premaxillary and maxillary bones of the rostrum as a criterion of cranial maturity for the delphinine delphinids (sensu LeDuc et al. 1999). We did not judge cranial maturity for members of other families and subfamilies. When a delphinine skull was of adult size but cranial maturity was uncertain because of tissue covering the rostrum tip, this is indicated with a question mark. A specimen was judged physically mature if all vertebral epiphyses were fused to the centra.

Use of geographic names follows the Times Atlas of the World (9th Edition, 1994). All specimens were collected in the former Soviet Union unless otherwise noted.

We have not made an exhaustive search of the older literature for references to the specimens; undoubtedly we have missed some, for example in the extensive literature on the Black Sea, and the listings should be considered preliminary.

Missing items in the entries either were not ascertainable or not available when the collections were examined. Additional data may exist for some of the specimens in laboratory records, files, manuscripts, etc.

Tomilin (1957) provided summary lists of cetacean specimens in Soviet museums. Specimens in ZMAN and ZMMGU listed by him but not seen by us are listed in Appendices 1 and 2.

#### ACKNOWLEDGMENTS

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SPECIMENS IN THE ZOOLOGICAL INSTITUTE, ST. PETERSBURG

Suborder **Odontoceti**:

Family **Platanistidae**

*Platanista gangetica* (Roxburgh, 1801) (1)

ZMAN 26777 – Complete skel., in cabinet; CB 295mm; coll. 1892 by Gerrard.

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Family **Monodontidae**

*Delphinapterus leucas* (Pallas, 1776) (3)

ZMAN 6863 – Cran. and mand., in cabinet; F, CB 648mm; coll. Spitsbergen, Norway; from Univ. Stockholm in 1882; ref. Tomilin (1957).

ZMAN 11443 – Both rami and fetus; coll. 1883, Novaya Zemlya; ref. Tomilin (1957).

ZMAN 27731 – Cran. and mand., in cabinet; CB 392mm; coll. 15 Sep 1961 by Miroshnyichuk (p./3330), S. Dickson Is., Yenisev River mouth; ref. Tomilin (1957).

*Monodon monoceros* Linnaeus, 1758 (1)

ZMAN unnumbered (15766?) – Complete mounted skeleton, on exhibit; ref. Tomilin (1957); tusk possibly from a different specimen.

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Family **Phocoenidae**

*Phocoena phocoena* (Linnaeus, 1758) (9)

ZMAN 6887 – Cran. and mand., in cabinet; CB 269mm; coll. by Baer; “*Phocoena communis*”; ref. Tomlin (1957)

ZMAN 11442 – Complete skel., in cabinet; CB 258mm; coll. 8 Oct 1915 by Lyebedyeva and Baranova, mouth of Izyenkov. R., Gulf of Finland; “*Phocoena communis*”; ref. Tomilin (1957).

ZMAN 11448 – Damaged mand., in cabinet; coll. 1877 by Baer; “*Delphinus*.”

ZMAN 13869 – Postcran. skel., in cabinet; coll. by E. Malm (124-1928), Black Sea; “*Phocoena relicta*”; ref. Tomilin (1957).

ZMAN 14704 – Dam. Cran., mand. and postcran. skel., in cabinet; CB 250mm; “*Delphinus phocoena*”; ref. Tomilin (1957).

ZMAN 21984 – Damaged cran., mand. and postcran. skel., in cabinet; coll. 1834 (No. 1), St. Petersburg; “*Delphinus phocoena*”; ref. Tomilin (1957).

ZMAN 21985 – Damaged cran., mand. and postcran. skel., in cabinet; CB 270mm; “*Phocoena*”; ref. Tomilin (1957).

ZMAN unnumbered – Cran. and mand., in cabinet; F, CB 267mm; coll. 7 Nov 1927 by A. Kuznyetsov (218-1929), near Vladivostok; ref. Tomilin (1957)  
ZMAN unnumbered – Complete mounted skel., on exhibit; p. mat., CB 238mm; coll. Black Sea; ref. Tomilin (1957).

[**Note:** one of the above may be a misidentified specimen of *Neophocaena phocaenoides*, which according to Tomilin (1957) was at one point represented in the collection by a specimen from Borneo.]

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*Phocoenoides dalli* (True, 1885) (2)

ZMAN 11433 – Damaged cran., in cabinet; fetus?; coll. 1888 by N. A. Grebnitskiy, Commander Is.; “*Phocoena* (= *Phocoenoides*)”; ref. Tomilin (1957).  
ZMAN 21983 – Complete skel., in cabinet; CB 260mm; coll. 1888 by [N. A. } Grebnitskiy (46-1896), Commander Is.; ref. Tomilin (1957).

.....  
Family **Delphinidae**

*Steno bredanensis* (G. Cuvier in Lesson, 1828) (3)

ZMAN 6883 – Cran. and mand., in cabinet; CB 507mm; coll. Vosnyesyenkiy?; “*Steno frontatus*.”  
ZMAN 6884 – Cran. and mand., in cabinet; CB 524mm; coll. Vosnyesyenkiy?; “*Steno frontatus*.”  
ZMAN 6885 – Cran. and mand., in cabinet; CB 536mm; coll. Gebhardt (Amsterdam, no. 276); “*Steno frontatus*.”

.....  
*Stenella attenuata* (Gray, 1846) (5)

ZMAN 6870 – Cran. and mand. , in cabinet; c. immat., CB 380mm; coll. Vosnyesyenskiy, North Pacific Ocean; “*Delphinus delphis*.”  
ZMAN 6886 – Cran. and mand., in cabinet; c. immat., CB 392mm; coll. 1877 by Klunziger, Quseir, Red Sea, Egypt; “*Delphinus agam*”; ref. Perrin et al. (1987).  
ZMAN 31134 – Cran. and mand., in cabinet; c. immat., CB 384mm; coll. eastern North Pacific Ocean.  
ZMAN 31135 – Cran. and mand., in cabinet; c. immat., CB 391mm; coll. eastern North Pacific Ocean.  
ZMAN 31136 – Cran. and mand., in cabinet; c. immat., CB 345mm; coll. eastern North Pacific Ocean.



*Stenella longirostris* (Gray, 1828) (1)

ZMAN 11438 – Cran. and mand., in cabinet; c. mat., CB 375mm; coll. 1875 by Gebhardt; “*Delphinus* sp.?”; ref. Tomilin (1957), as juvenile of *Stenella coeruleoalba*.

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*Tursiops truncatus* (Montagu, 1821) (7)

- ZMAN 15475 – Damaged cran. and mand., in cabinet; M, c. immat., CB ca. 370mm; coll. E. N. Malm (223-1928(2)), Crimea, Black Sea; “*Delphinus tursio*.”
- ZMAN 21982 – Beach-worn cran., in cabinet; c. immat., CB >450mm.
- ZMAN 22530 – Complete skel., in cabinet; c. immat., CB 487mm; coll. 1887 by Brandt, Adriatic Sea.
- ZMAN 24569 – Postcran. skel., in cabinet; p. mat.; coll. 1928 by E. N. Malm, Black Sea; ref. Tomilin (1957).
- ZMAN 29743 – Cran. and mand., in cabinet; c. mat., CB 502mm; coll. 1928 by E. N. Malm, Black Sea.
- ZMAN 30359 – Cran. and postcran. skel., in cabinet; M, c. immat., CB 224mm; coll. 1972 by A. M. Antonyuk, Koktyebyelskiy Zaliv, Black Sea; “*Turzius truncatus?*.”
- ZMAN unnumbered – Complete mounted skel., on exhibit; p. mat., CB 457mm; ref. Tomilin (1957) as “complete skeleton from Black Sea.”
- .....

*Delphinus delphis* Linnaeus, 1758 (20)

- ZMAN 3792 – Damaged cran. and mand., in cabinet; c. mat., CB 400mm; coll. 1888 by Andrussov, Balaklava, Black Sea; ref. Tomilin (1957).
- ZMAN 6868 – Cran. and mand., in cabinet; c. mat., CB 395mm; coll. Danilyevskiy, Black Sea; ref. Tomilin (1957).
- ZMAN 6869 – Damaged cran. and mand., in cabinet; c. immat., CB 410mm; coll. Atlantic Ocean [Canary Islands?] (no. 444); ref. Tomilin (1957).
- ZMAN 6871 – Cran. and mand., in cabinet; c. mat., CB 388mm; coll. 1879 by Chernyovskiy, Sukhumi, Black Sea; ref. Tomilin (1957).
- ZMAN 6872 – Cran. and mand., in cabinet; c. mat., CB 457mm; coll. 1880 by Antonov; ref. Tomilin (1957), as “Canary Islands” or one of “16 skulls from the Black Sea.” [Skull is very large to be from Black Sea; see Perrin et al. 1994.]
- ZMAN 6873 – Damaged cran. and mand., in cabinet; c. mat?; coll. 1879 by Chernyovskiy, Sukhumi, Black Sea; ref. Tomilin (1957).
- ZMAN 6876 – Cran. and mand., in cabinet; c. mat?; coll. 1849 by Vosnyesyenskiy, Rio de Janeiro, Brazil; “*Delphinus* sp.?”; ref. Tomilin (1957).
- ZMAN 6878 – Cran. and mand., in cabinet; c. mat., CB 417mm; coll. 1879 by Cheryovskiy, Sukhumi, Black Sea; ref. Tomilin (1957).
- ZMAN 11437 – Cran., in cabinet; c. mat?, CB 385mm; coll. 1879 by Chernyovskiy, Sukhumi, Black Sea; ref. Tomilin (1957).

- ZMAN 11439 – Cran. and mand., in cabinet; c. immat?, CB 370mm; coll. by S. N. Alfyeraki, Sochi, Black Sea; ref. Tomilin (1957).
- ZMAN 11440 – Cran., in cabinet; c. immat., CB 304mm; coll. by Danilyevskiy, [Black Sea?]; “*Delphinus* sp.”; ref. Tomilin (1957) [one of “16 skulls from Black Sea”?].
- ZMAN 13637 – Cran. and mand., in cabinet; F, c. immat., CB 347mm; coll. 1927 by E. N. Malm (54-1928(1)), Crimea, Black Sea; ref. Tomilin (1957).
- ZMAN 13638 – Cran. and mand., in cabinet; M, c. mat., CB 393mm; coll. 1927 by E. N. Malm (54-1928(4), nr. 9), Black Sea; ref. Tomilin (1957).
- ZMAN 13639 – Cran. and mand., in cabinet; M, c. mat., CB 390mm; coll. 1927 by E. N. Malm (nr. 3), Black Sea; ref. Tomilin (1957).
- ZMAN 13640 – Damaged cran. and mand., in cabinet; M, c. mat., CB 367mm; coll. 1927 by E. N. Malm (nr. 2), Black Sea; ref. Tomilin (1957).
- ZMAN 13871 – Complete mounted skel., on exhibit; M, p. mat., CB 409mm; coll. 14 Nov 1927 by E. N. Malm, Black Sea; ref. Tomilin (1957).
- ZMAN 14492 – Cran. and mand., in cabinet; F, c. mat., CB 392mm; coll. E. N. Malm, Black Sea; ref. Tomilin (1957).
- ZMAN unnumbered – Cran. and mand., in cabinet; CB ca. 370mm; ref. Tomilin (1957) [one of “two of unknown origin”?]
- ZMAN unnumbered – Damaged cran. and mand., in cabinet; ref. Tomilin (1957) [one of “two of unknown origin”?]

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*Cephalorhynchus commersonii* (Lacépède, 1804) (1)

- ZMAN 6888 – Cran. and mand., in cabinet; c. immat?, CB 285mm; coll. by A. A. Birulya, Delta of Rio de la Plata, South America; “*Cephalorhynchus* sp.”

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*Globicephala melas* (Traill, 1809) (1)

- ZMAN 6882 – Mand. without teeth, in cabinet; calf or fetus; coll. Faeroe Is., Denmark; “*Globicephalus melas*”; obtained from University of Stockholm; ref. Tomilin (1957).

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*Orcinus orca* (Linnaeus, 1758) (1)

- ZMAN 15757 – Complete mounted skel., on exhibit; M; coll. 13 Jun 1927 by S. Ryltsov, V. Mateyev and G. Kalyazin, Kandalaksha Bay, White Sea; “*Orca gladiator*”; ref. Tomilin (1957).
- .....

Family **Ziphiidae**

*Mesoplodon stejnegeri* True, 1885 (2)

ZMAN unnumbered [21981 or 22529] – Rt. ramus with tooth, in cabinet; ref. Tomilin (1957).

ZMAN unnumbered [21981 or 22529] – Rt. ramus with tooth, in cabinet; ref. Tomilin (1957).

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*Ziphius cavirostris* G. Cuvier, 1823 (1)

ZMAN unnumbered [6880 or 22516, listed in museum register] – Cran. and damaged mand., on exhibit; coll. by Gryebnitskiy, Kamchatka [ 6880] or by Voznyesyenskiy, Pacific Ocean [22516]; ref. Tomilin (1957).

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*Hyperoodon ampullatus* (Forster, 1770) (1)

ZMAN unnumbered [7961?] – Complete mounted skel., on exhibit; coll. 16 May 1895, Vardo Island, Faeroes, Denmark [if 7961]; ref. Tomilin (1957).

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Family **Physeteridae**

*Physeter macrocephalus* (Linnaeus, 1758) (2)

ZMAN unnumbered – Cran. and mand., on exhibit.

ZMAN unnumbered – mand., on exhibit; juvenile; ref. Tomilin (1957), [one of “two lower jaws, one from the Antarctic, the other of unknown origin.”]

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Suborder **Mysticeti:**

Family **Eschrichtiidae**

*Eschrichtius robustus* (Lilljeborg, 1861) (2)

ZMAN unnumbered – Complete mounted skel., on exhibit.

ZMAN unnumbered – Cran., on exhibit.

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Family **Balaenopteridae**

*Balaenoptera acutorostrata* Lacépède, 1804 (1)

ZMAN unnumbered – Cran., on exhibit; ref. Tomilin (1957) [one of three: “the other of unknown origin; the third was brought in 1903 from the Barents Sea”?]

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*Balaenoptera musculus* (Linnaeus, 1758) (1)

ZMAN unnumbered – Complete mounted skel., on exhibit; total body length 26.6m; coll. 3 Nov 1827 after found floating at sea in British Channel, towed to Ostend, Belgium and officially donated to King William I of the Netherlands and Belgium; ref. Anon. (1827), van Breda (1827) Dubar (1828), Anon. (1829), Bernaert (1829), Fischer (1829-1830, partial basis for *Balaenoptera borealis* Fischer, not Lesson), Dewhurst (1832, holotype of *Balaenoptera Rorqual*), Dewhurst (1834), Van Beneden (1861, holotype of *Pterobalaena gigas*), Gray (1864a,b), Tomilin (1957), Hershkovitz (1966); acquired by Balabin.

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**Unidentified mysticete whales (2)**

ZMAN unnumbered – Both rami, on exhibit.

ZMAN unnumbered – Both rami, on exhibit.

[**Note:** Japha (1908) reported a specimen of *Megaptera novaeangliae* in St. Petersburg. Tomilin (1957) listed a 5.38m lower jaw of *Balaena mysticeus* from the North Pacific and specimens of *Balaenoptera physalus* and an additional specimen of *B. musculus*; see Appendix 1.]

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SPECIMENS IN THE ZOOLOGICAL MUSEUM, MOSCOW STATE UNIVERSITY

Suborder **Odontoceti:**

Family **Monodontidae**

*Delphinapterus leucas* Lacépède, 1804 (63)

ZMMGU S-60887 to 60892 and S-62017 to 62046 (36 specimens) – Data for these specimens and additional data for the 26 below from the Okhotsk Sea, all placed in the collection by S. E. Kleinenberg, are in the files of the Institute of Developmental Biology of the Russian Academy of Sciences, 26 Vavilov St., Moscow 117334. Ref. Tomilin (1957).

ZMMGU S-62047 to 62072 (26 specimens) – Coll. Jun-Aug 1958 by S. E. Kleinenberg, Okhotsk Sea; ref. Tomilin (1957).

ZMMGU S-102012 – Coll. By B. Zhitov and S. Buturlin, Novaya Zemlya; ref. Tomilin (1957).

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## Family **Phocoenidae**

### *Phocoena phocoena* (Linnaeus, 1758) (22)

ZMMGU S-5135 – Cran. and mand.; BL 113cm, CB 256mm; coll. 29 Jun 1928 by Nokolskiy, Aleksandrovsk, Barents Sea; ref. Tomilin (1957), “Kola Bay”.

ZMMGU S-21156 – Cran. and mand.; M, CB 246mm; coll. 11 May 1936 by V. I. Tsalkin (N41-145), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21157 – Cran. and mand.; M, CB 246mm; coll. 21 Sep 1936 by V. I. Tsalkin (N9-136), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21158 – Cran. and mand.; F, CB 271mm; coll. 26 Oct 1936 by V. I. Tsalkin (N1-139), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21159 – Cran. and mand.; M, CB 255mm; coll. 11 May 1936 by V. I. Tsalkin (N26-134), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21160 – Cran. and mand.; F, CB 271mm; coll. 3 Oct 1936 by V. I. Tsalkin (N41-157), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21161 – Cran. and mand.; F, CB 279mm; coll. by V. I. Tsalkin (N20-165), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21162 – Cran. and mand.; F, CB 280mm; coll. 3 Nov 1936 by V. I. Tsalkin (N15-180), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21163 – Cran. and mand.; F, CB 228mm; coll. 15 Oct 1936 by V. I. Tsalkin (N1-116), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-21169 – Cran. and mand.; CB 208mm; coll. 24 Oct 1936 by V. I. Tsalkin (N3-115), Kerchenskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

ZMMGU S-23126 – Cran. and mand.; CB 251mm; coll. 15 Oct 1936 by V. I. Tsalkin (no. 17), Kerchye-Enshkalbskiy Strait, Black-Azov Seas; ref. Tomilin (1957).

The 11 specimens S-52551 to 52560 below each consist of cran. and mand. and were collected on 16 Apr 1949 by S. E. Kleinenberg at Anapa, Black Sea. All are labeled “*P. phocoena relicta*” and referenced by Tomilin (1957).

ZMMGU S-52551 – (No. 4); M, BL 122cm, WT 27kg, CB 226mm.

ZMMGU S-52552 – (No. 68); M, BL 127cm, WT 29kg, CB 222mm.

ZMMGU S-52553 – (No. 70); F, BL 127cm, WT 37kg, CB 232mm.

ZMMGU S-52554 – (No. 72); F, BL 129cm, WT 30kg, CB 242mm.

ZMMGU S-52555 – (No. 74); M, BL 124cm, WT 27kg, CB 229mm.

ZMMGU S-52556 – (No. 76); [data given are same as for ZMMGU S-52555, likely an error].

ZMMGU S-52557 – (No. 81); M, BL 128cm, WT 29kg, CB 236mm.  
ZMMGU S-52558 – (No. 85); M, BL 124cm, WT 26kg, CB 231mm.  
ZMMGU S-52559 – (No. 90); M, BL 132cm, WT 33kg, CB 239mm.  
ZMMGU S-52560 – (No. 93); M, BL 120cm, WT 30kg, CB 228mm.  
ZMMGU S-60886 – Cran. and mand.; CB 268mm; coll. 1956 (No. 1).  
ZMMGU unnumbered – Cran. and mand.; CB 243mm; ref. Tomilin (1957), [“Kola Bay”?]

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## Family Delphinidae

### *Lagenorhynchus obliquidens* Gill, 1865 (1)

ZMMGU S-60152 – Complete skel.; CB 354mm; coll. Kuril Is.; ref. Tomilin (1957), “collected by Sleptsov in the Far East”.

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### *Tursiops truncatus* (Montagu, 1821) (51)

ZMMGU S-1084 – Damaged cran. and mand.; no data.

The following 50 specimens S-50751 to 50800 each consists of cran. and mand. and were collected on 16 May 1948 by S. E. Kleinenberg at Yalta, Black Sea. All are labeled “*T. tursio*.” Ref. Tomilin (1957).

ZMMGU S-50751 – (No. 1); M, c. mat., BL 210cm, WT 130kg, CB 471mm.  
ZMMGU S-50752 – (No. 2); M, c. immat., BL 182cm, WT 88kg, CB 406mm.  
ZMMGU S-50753 – (No. 3); M, c. immat., BL 155cm, WT 92kg, CB 336mm.  
ZMMGU S-50755 – (No. 4); F, BL 237cm, WT 167kg, CB 459mm.  
ZMMGU S-50756 – (No. 5); M, c. immat., BL 196cm, WT 99kg, CB 412mm.  
ZMMGU S-50757 – (No. 6); M, c. immat., BL 208cm, WT 114kg, CB 426mm.  
ZMMGU S-50758 – (No. 7); M, c. immat., BL 199cm, WT 114kg, CB 434mm.  
ZMMGU S-50759 – (No. 8); M, c. mat., BL 194cm, WT 113kg, CB 449mm.  
ZMMGU S-50760 – (No. 9); F, c. mat., BL 215cm, WT 94kg, CB 459mm.  
ZMMGU S-50761 – (No. 10); M, BL 217cm, WT 141kg.  
ZMMGU S-50762 – (No. 11); F, c. mat., BL 244cm, WT 187kg, CB 440mm.  
ZMMGU S-50763 – (No. 12); M, c. immat., BL 193cm, WT 97kg, CB 423mm.  
ZMMGU S-50764 – (No. 13); F, c. immat., BL 195cm, WT 115kg, CB 418mm.  
ZMMGU S-50765 – (No. 14); M, c. immat., BL 175cm, WT 77kg, CB 394mm.  
ZMMGU S-50766 – (No. 15); F, c. mat., BL 233cm, WT 176kg, CB 468mm.  
ZMMGU S-50767 – (No. 16); F, c. immat., BL 207cm, WT 123kg, CB 427mm.  
ZMMGU S-50768 – (No. 17); M, c. immat., BL 197cm, WT 114kg, CB 428mm.  
ZMMGU S-50769 – (No. 18); F, c. mat., BL 236cm, WT 177kg.  
ZMMGU S-50770 – (No. 19); M, c. mat., BL 219cm, WT 141kg, CB 460mm.

ZMMGU S-50771 – (No. 20); F, c. mat., BL 236cm, WT 145kg, CB 462mm.  
 ZMMGU S-50772 – (No. 21); F, BL 210cm, WT 127kg.  
 ZMMGU S-50773 – (No. 24); M, c. immat., BL 188cm, WT 98kg, CB 384mm.  
 ZMMGU S-50774 – (No. 25); M, c. immat., BL 169cm, WT 79kg, CB 383mm.  
 ZMMGU S-50775 – (No. 26); F, c. immat., BL 216cm, WT 134kg, CB 455mm.  
 ZMMGU S-50776 – (No. 27); F, c. mat., BL 231cm, WT 158kg, CB 463mm.  
 ZMMGU S-50777 – (No. 28); F, c. mat., BL 196cm, WT 106kg, CB 432 mm.  
 ZMMGU S-50778 – (No. 29); F, c. immat., BL 184cm, WT 95kg.  
 ZMMGU S-50779 – (No. 30); F, c. mat., BL 214cm, WT 153kg, CB 443mm.  
 ZMMGU S-50780 – (No. 31); F., c. mat., BL 226cm, WT 153kg, CB 446mm.  
 ZMMGU S-50781 – (No. 32); M, c. mat., BL 210cm, WT 120kg, CB 452mm.  
 ZMMGU S-50782 – (No. 33); M, c. mat., BL 228cm, WT 155kg, CB 455mm.  
 ZMMGU S-50783 – (No. 34); F, c. mat. BL 232cm, WT 159kg, CB 468mm.  
 ZMMGU S-50784 – (No. 35); M, c. mat., BL 223cm, WT 145kg, CB 461mm.  
 ZMMGU S-50785 – (No. 36); F, c. mat., BL 234cm, WT 174kg, CB 447mm.  
 ZMMGU S-50786 – (No. 37); F, c. mat., BL 228cm, WT 156kg, CB 464mm.  
 ZMMGU S-50787 – (No. 38); F, c. mat., BL 226cm, WT 157kg, CB 458mm.  
 ZMMGU S-50788 – (No. 39); F, c. immat., BL 168cm, WT 75kg.  
 ZMMGU S-50789 – (No. 40); M, c. immat., BL 195cm, WT 107kg, CB 439mm.  
 ZMMGU S-50790 – (No. 41); F, c. immat., BL 206cm, WT 127kg, CB 450mm.  
 ZMMGU S-50791 – (No. 42); M, c. immat., BL 167cm, WT 74kg, CB 449mm.  
 ZMMGU S-50792 – (No. 43); F, c. immat., BL 181cm, WT 87kg, CB 437mm.  
 ZMMGU S-50793 – (No. 44); F, c. mat., BL 211cm, WT 126kg, CB 465mm.  
 ZMMGU S-50794 – (No. 45); M, c. immat., BL 192cm, WT 98kg.  
 ZMMGU S-50795 – (No. 46); F, c. immat., BL 166cm, WT 70kg, CB 391mm.  
 ZMMGU S-50796 – (No. 47); M, c. immat., BL 197cm, WT 103kg.  
 ZMMGU S-50797 – (No. 48); F, c. mat., BL 241cm, WT 187kg, CB 458mm.  
 ZMMGU S-50798 – (No. 49); F, c. immat., BL 237cm, WT 157kg, CB 415mm.  
 ZMMGU S-50799 – (No. 50); M, c. immat., BL 190cm, WT 103kg, CB 429mm.  
 ZMMGU S-50800 – (No. 51); c. immat., CB 453mm; ref. Tomilin (1957).

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*Delphinus delphis* Linnaeus, 1758 (67)

The following 7 specimens (S-5410 to S-50805) were collected in the Black Sea and referenced by Tomilin (1957) as “several skulls.”

ZMMGU S-5410 – Damaged cran.; coll. 18 Jul 1924 by K. Flyerov, Batumi.  
 ZMMGU S-5411 – Cran.; c. mat., CB 354; coll. 18 Jul 1924 by K. Flyerov, Batumi.  
 ZMMGU S-50801 – Damaged cran. and mand.; M, c. immat., BL 121cm, WT 22.3kg; coll. 17 Sep 1948 by S. E. Kleinenberg (no. 6), Yalta.  
 ZMMGU S-50802 – Cran. and mand., M, c. immat., BL 122cm, WT 22kg, CB 303mm; coll. 17 Sep 1948 by S. E. Kleinenberg (no. 7), Yalta.  
 ZMMGU S-50803 – Cran. and mand.; M, c. immat., BL 114cm, WT 20.4kg, CB 300mm; coll. 17 Sep 1948 by S. E. Kleinenberg (no. 8), Yalta.

ZMMGU S-50804 – Cran. and mand.; M, c. mat., BL 191cm, WT 74kg, CB 397mm; coll. 17 Sep 1948 by S. E. Kleinenberg (no. 9), Yalta.  
ZMMGU S-50805 – Cran. and mand.; M, c. mat., BL 196cm, WT 78kg, CB 420mm; coll. 17 Sep 1948 by S. E. Kleinenberg (no 10), Yalta.

The following 57 specimens (S-80333 to S-80399) consist of cran. and mand. and were collected by the staff of VNIRO (All-Union Research Institute of Fisheries and Oceanography) in the Black Sea. These specimens were formerly in the Marine Mammals Laboratory of VNIRO and were thus referenced by Tomilin (1957).

ZMMGU S-80333 – F, c. mat?, BL 165cm, CB 395mm; 9 Oct 1933, Yalta (No. 43).  
ZMMGU S-80334 – M, c. mat., BL 181cm, CB 379mm; 18 Aug 1933, Novorossiysk (No. 74).  
ZMMGU S-80335 – F, c. mat., BL 158cm, CB 403mm; 7 Feb 1934, Yalta (No. 17).  
ZMMGU S-80336 – F, c. mat., BL 183cm, CB 406mm; 19 Oct 1934, Yalta (No. 14).  
ZMMGU S-80337 – M, c. immat., BL 144cm, CB 370mm; 20 Jun 1933, Novorossiysk (No. 43).  
ZMMGU S-80338 – F, c. immat., BL 158cm, CB 366mm; Batumi (No. 74).  
ZMMGU S-80339 – F, c. mat., CB 401mm; 30 May 1934, Yalta (No. 21).  
ZMMGU S-80340 – M, c. mat., BL 189cm, CB 400mm; 3 Oct 1933, Yalta (No. 10).  
ZMMGU S-80341 – M, c. mat., BL 166cm, CB 375mm; 18 Aug 1933, Novorossiysk (No. 53).  
ZMMGU S-80342 – c. mat., CB 388mm; 12 Jul 1934 (No. 77).  
ZMMGU S-80343 – c. immat., BL 131cm, CB 351mm; 14 Jul 1934, Yalta (No. 30).  
ZMMGU S-80344 – F, c. immat., BL 136cm, CB 352mm; 23 Aug 1934, Yalta (No. 33).  
ZMMGU S-80345 – M, c. mat., BL 196cm, CB 393mm; 3 May 1934, Novorossiysk (No. 56).  
ZMMGU S-80346 – M, c. immat., BL 160cm, CB 391mm; 30 Jul 1933 (No. 49).  
ZMMGU S-80347 – F, c. mat., BL 177cm, CB 409mm; 13 Sep 1933 (No. 5).  
ZMMGU S-80348 – Coll. 1933, Yalta (No. 16).  
ZMMGU S-80349 – M, c. mat., BL 185cm, CB 402mm; 20 Jun 1933, Novorossiysk (No. 42).  
ZMMGU S-80350 – M, c. immat., BL 164cm, CB 363mm; 10 Jul 1933, Novorossiysk (No. 48).  
ZMMGU S-80351 – F, c. mat., BL 171cm, CB 380mm; Batumi (No. 62).  
ZMMGU S-80352 – c. mat., BL 157cm, CB 396mm; Batumi (No. 69).  
ZMMGU S-80353 – c. immat., BL 121cm, CB 328mm; 22 Aug 1934, Yalta (No.32).  
ZMMGU S-80354 – c. mat., BL 180cm, CB 403mm; 27 Jun 1933, Yalta (No. 1).  
ZMMGU S-80355 – M, c. mat., BL 188cm, CB 406mm; Aug 1933, Novorossiysk (No. 51).  
ZMMGU S-80356 – M, c. mat., BL 188cm, CB 408mm; 15 Oct 1933, Yalta (No. 13).  
ZMMGU S-80357 – F, c. immat., BL 160cm, CB 380mm; 20 May 1933, Novorossiysk (No. 37).  
ZMMGU S-80358 – Coll. 12 Aug 1934 (No. 75).  
ZMMGU S-80359 – F, c. mat., BL 175cm, CB 398mm; 23 Jul 1933, Novorossiysk (No. 54).  
ZMMGU S-80360 – c. mat., CB 389mm; 12 Aug 1934 (No. 74).  
ZMMGU S-80361 – M, c. immat., BL 165cm, CB 382mm; 29 May 1934 (No. 66).  
ZMMGU S-80362 – M, c. mat., CB 382mm; 1933, Batumi (No. 65).  
ZMMGU S-80363 – M, c. mat., BL 176cm, CB 392mm; Yalta.  
ZMMGU S-80364 – M, c. immat., BL 153cm, CB 366mm; 10 Aug 1934, Yalta (No. 29).  
ZMMGU S-80365 – F, c. immat., BL 157cm, CB 368mm; 20 Jun 1933, Novorossiysk (No. 38).  
ZMMGU S-80366 – c. immat., BL 215cm, CB 398mm; 14 Jun 1934, Novorossiysk (No. 64).  
ZMMGU S-80367 – F, c. mat., BL 165cm, CB 385mm; 20 Jun 1933, Novorossiysk (No. 47).  
ZMMGU S-80368 – M, c. immat., BL 156cm, CB 364mm; 30 Sep 1933, Yalta (No. 7).



ZMMGU S-80369 – F, c. mat., BL 167cm, CB 386mm; 20 Jun 1933, Novorossiysk (No. 36).  
 ZMMGU S-80370 – M, c. mat., BL 170cm, CB 380mm; 11 May 1934, Novorossiysk (No. 58).  
 ZMMGU S-80371 – F, c. immat., BL 129cm, CB 351mm; 4 Jul 1933, Yalta (No. 28).  
 ZMMGU S-80372 – F, c. mat., BL 170cm, CB 401mm; 1933, Yalta (No. 2).  
 ZMMGU S-80373 – F, c. mat., BL 170cm, CB 413mm; 10 Sep 1933, Yalta (No. 4).  
 ZMMGU S-80374 – M, BL 195cm, CB 373mm; 28 May 1934, Novorossiysk (No. 62).  
 ZMMGU S-80375 – M, c. mat., BL 174cm, CB 398mm; 6 Jun 1934, Novorossiysk (No. 63).  
 ZMMGU S-80376 – M, c. mat., CB 396mm; 1933, Yalta (No. 6).  
 ZMMGU S-80377 – F, c. mat., CB 384mm; 1933 (No. 8).  
 ZMMGU S-80378 – M, c. mat., BL 183cm, CB 391mm; 25 Apr 1934, Novorossiysk (No. 55).  
 ZMMGU S-80379 – M, c. mat., CB 400mm; Jun 1933, Yalta (No. 24).  
 ZMMGU S-80380 – M, c. immat., BL 177cm, CB 399mm; 18 Jun 1934, Yalta (No. 19).  
 ZMMGU S-80381 – F, c. immat., BL 151cm, CB 388mm; 7 Feb 1934, Yalta (No. 18).  
 ZMMGU S-80382 – M, c. immat., BL 140cm, CB 363mm; 23 Aug 1934, Yalta (No. 39).  
 ZMMGU S-80383 – F, c. mat., BL 164cm, CB 383mm; 20 Jun 1934, Novorossiysk (No. 39).  
 ZMMGU S-80384 – F, BL 164cm, CB 381mm; 20 Jun 1933, Novorossiysk (No. 40).  
 ZMMGU S-80385 – M, c. mat., BL 175cm, CB 402mm; 17 May 1934, Novorossiysk (No. 60).  
 ZMMGU S-80386 – F, c. immat., BL 176cm, CB 359mm; Batumi (No. 70).  
 ZMMGU S-80387 – F, c. mat., BL 177cm, CB 389mm; 11 Jun 1938  
 ZMMGU S-80388 – F, BL 159cm, CB 370mm; Oct 1935.  
 ZMMGU S-80389 – M, c. mat., CB 403mm; 1935 (No. 50).  
 ZMMGU unnumbered – Cran. and mand.; c. mat., CB 376mm.  
 ZMMGU unnumbered – Cran. and mand.; c. mat., CB 380mm.  
 ZMMGU unnumbered – Damaged cran.; no data.

.....  
*Orcinus orca* (Linnaeus, 1758) (2)

ZMMGU S-60151 – Cran. and mand.; coll. 1955 by Klumov, Kurimaskiye Os'shchagova; ref. Tomilin (1957).  
 ZMMGU S-102014 – Cran. and mand.; ref. Tomilin (1957).  
 .....

Family **Ziphiidae**

*Berardius bairdii* Stejneger, 1883 (1)

ZMMGU S-58714 – Cran. and mand.; M; coll. Aug 1951 by M. M. Sleptsov, Kuril Is.  
 .....

SPECIMENS IN THE MUSEUM OF TINRO, VLADIVOSTOK

Suborder **Odontoceti**:  
Family **Monodontidae**

*Delphinapterus leucas* (Pallas, 1776) (1)

VNIRO 6717/23 – Skull; no data.  
.....

Family **Phocoenidae**

*Phocoenoides dalli* (True, 1885) (1)

TINRO 8023/23 – Cran.; coll. 15 Apr 1960 by G. K. Panina at 42°28'N, 131°42'E.  
.....

Family **Delphinidae**

*Lagenorhynchus obliquidens* Gill, 1865 (2)

TINRO 8024/23 – Cran. and mand.; M, BL 1.8m; coll. 22 Apr 1960 by A. N. Belkin at 39°00'N, 142°40'E.

TINRO 8675/23 – Cran.; coll. 14 May 1972 by A. A. Kuz'min in Amur Gulf, Japan Sea, Stantsii Ugol'naya Rayon.  
.....

*Lagenorhynchus obscurus* (Gray, 1828) (1)

TINRO 8671/23 – Complete skel.; coll. 12 Feb 1972 in Canterbury Bight, New Zealand, 44°36'S, 172°49'E.; "*Lagenorhynchus obliquidens*."  
.....

*Delphinus delphis* Linnaeus, 1758 (1)

TINRO 8373/23 – Cran. and mand.; coll. Nov 1964 by L. S. Kodolov in vicinity of eastern coast of Hokkaido Is., Japan.  
.....

*Globicephala macrorhynchus* Gray, 1846 (1)

TINRO 8686/23 – Cran.; coll. Jun 1972 by V. I. Troinin in central Gulf of Alaska;  
“*Globicephala melaena*.”

.....

*Orcinus orca* (Linnaeus, 1758) (4)

TINRO 7686/23 – Cran.; no data.

TINRO 7686/23 [duplicate number] – Cran.; coll. 1958 in vicinity of Okhotsk coast, Iturup Is.,  
Kuril Is.

TINRO 8474/23 – Complete skel.; F, BL 8.4m; coll. 21 Aug 1967 by V. M. Latyshev in Aleutian  
Gulf, Bering Sea.

TINRO 8700/23 – Cran.; M, BL 8.7m; coll. by S. I. Lagerev and V. I. Ryabov at 42°01N,  
126°18'E.

.....

Family **Ziphiidae**

*Ziphius cavirostris* G. Cuvier, 1823 (1)

TINRO 8687/23 – Cran.; coll. Jun 1962 by V. I. Troinin in central Gulf of Alaska.

.....

*Berardius bairdii* Stejneger, 1883 (2)

TINRO 8475/23 – Complete skel.; M, BL 7.6m; coll. 8 Sep 1967 by V. M. Latyshev in Okhotsk  
Sea in vicinity of Paramushir Is., Kuril Is.

TINRO 8770/23 – cran. and mand.; F, BL 9.8m; coll. 3 Jun 1974 by V. I. Ryabov at 42°47'N,  
125°02'E.

.....

Family **Physeteridae**

*Physeter macrocephalus* (Linnaeus, 1758) (1)

TINRO 8617/23 – Cran.; F, BL 7.6m; coll. Oct 1971 by S. A. Blokhin in southern Kuril Is.

.....

Suborder **Mysticeti**  
Family **Balaenopteridae**

*Balaenoptera acutorostrata* Lacépède, 1804

or

*B. bonaerensis* Burmeister, 1867

(3)

TINRO 7294/23 – Cran.; no data; “*Balaenoptera acutorostrata*.”

TINRO 8673/23 – Complete skel.; F, BL 7.1m; coll. 18 Jan 1971 by A. A. Kuz'min at 63°10'S, 83°12'E; “*Balaenoptera acutorostrata*.”

TINRO 8729/23 – Cran. and mand.; M, BL 8.2m; coll. 19 Jan 1971 by A. A. Kuz'min at 62°30'S, 82°00'E; “*Balaenoptera acutorostrata*.”

.....

*Balaenoptera borealis* Lesson, 1828 (1)

TINRO 7731/23 – Pelvic bones; no data.

.....

SPECIMENS IN THE OSTEOLOGICAL MUSEUM OF ATLANTNIRO, KALININGRAD

[Note: The specimens in ATLANTNIRO are not numbered.]

Suborder **Odontoceti**  
Family **Delphinidae**

*Globicephala melas* (Traill, 1809) (1)

Skull; M, BL 5.42m, WT 1.6t, CB 71cm; coll. 13 Jan 1971 by E. G. Sazhinov in Argentine Basin.

.....

*Orcinus orca* (Linnaeus, 1758) (2)

1 – Skull; M, BL 7.12m, WT 6.9t, CB 110cm; coll. 17 Feb 1974 by V. V. Sukhovyershin in Bellinghausen Sea, Antarctica.

2 – Skull and 48 teeth; M, BL 7.6m, WT 7.2t, CB 113cm; coll. 8 Mar 1967 by E. G. Sazhinov in Weddell Sea.

.....

Family **Ziphiidae**

*Hyperoodon planifrons* Flower, 1882 (1)

Skull; M, BL 6.8m, WT 5.0t, CB 131cm; coll. 3 Apr 1962 by V. A. Zemskiy at eastern part of Falkland Is., U.K.

.....

Family **Physeteridae**

*Physeter macrocephalus* (Linnaeus, 1758) (2)

1 – Mand. and 52 teeth; M, BL 14.5m, WT 36t; coll. 3 Apr 1964 by G. A. Budylenko in the Scotia Sea, Antarctica.

2 – Complete skel.; M, BL 16.8m, WT 63.6t; coll. 21 Apr 1975 by E. G. Sazhinov and I. E. Filatov in Argentine Basin.

.....

Suborder **Mysticeti:**

Family **Neobalaenidae**

*Caperea marginata* (Gray, 1846) (1)

Skull; F, BL 6.35m, WT 3.4t, CB 136cm; coll. 30 Feb 1970 by E. G. Sazhinov in southeastern Atlantic.

.....

Family **Balaenopteridae**

*Balaenoptera acutorostrata* Lacépède, 1804

or

*Balaenoptera bonaerensis* Burmeister, 1867

(1)

Skull; M, BL 7.7m, WT 3.4t, CB 136cm; coll. 19 Feb 1967 by E. G. Sazhinov in Weddell Sea.

## LITERATURE CITED

- Anon. 1827(?). Historische Nota en bijzonderheeren Omtrent de Ontdekking, Bewaring en Ontleding der koninklijke Walvisch, bij Ostende gestrand. Broadside, 1p.
- Anon. 1829. An enormous whale. London's Magazine of Natural History, 1829 (1):283.
- Bernaert, M. B. F. 1829. Notice sur la Baleine échouée pres d'Ostende le 5 novembre 1827, et sur les fêtes donnée par M. Kessels, à l'occasion de la prise de possession au nom de S. M. le roi de Pays-Bas du squelette de ce cétacé. Normant, Paris, 64pp.
- van Breda, J. G. S. 1827. Eenige bijzonderheden Omstrent den Walvisch, die den 5-den November 1827, bij Ostende gestrand is. Algemeene Konst-en Letter-Bode, 48, Nov. 30, 1827:341—348.
- Dewhurst, H. W. 1832. Observations on the zoology and comparative anatomy of the skeleton of the *Balaenoptera Rorqual*, broadnosed whale, now exhibiting at the Pavilion, King's Mews, Charing Cross. Magazine of Natural History 5:214—233.
- Dewhurst, H. W. 1834. The natural history of the order Cetacea, and the oceanic inhabitants of the Arctic regions. Privately published, London, xx + 331pp.
- Dubar, J. 1828. Ostéographie de la Baleine echouée à l'Est du port d'Ostend, le 4 nov. 1827; precede d'une notice sur la découverte et la dissection de ce cétacé. Laurent Frères, Brussels, 61pp, 3 pl.
- Fischer, J. B. 1829—30. Synopsis Mammalium. Cotta, Stuttgart, xlii +528pp.
- Gray, J. E. 1864a. Notes on the whale-bone whales: with a synopsis of the species. Annual Magazine of Natural History 14(3):345—353.
- Gray, J. E. 1864b. On the Cetacea which have been observed in the seas surrounding the British Islands. Proceedings of the Zoological Society, London, May, 1864:195—248.
- Hershkovitz, P. 1966. Catalog of living whales. U.S. National Museum Bulletin 246, 259pp.
- Japha, A. 1908. Zusammenstellung der in der Ostsee bisher beobachteten Wale. [Not seen].
- LeDuc, R. G., W. F. Perrin and A. E. Dizon. 1999. Phylogenetic relationships among the delphinid cetaceans based on full cytochrome *b* sequences. Marine Mammal Science 15:619—648.
- Perrin, W. F., A. V. Yablokov, J. Barlow and M. V. Mina. 1994. Comparison of the resolving power of metric and non-metric characters in defining geographical populations of dolphins. Natural History Museum of Los Angeles Country Contributions in Science 447, 15pp.
- Perrin, W. F., E. D. Mitchell, J. G. Mead, D. K. Caldwell, M. C. Caldwell, P. J. H. van Bree and W. H. Dawbin. 1987. Revision of the spotted dolphins, *Stenella* spp. Marine Mammal Science 3:99-170.
- Perrin, W. F., B. Würsig and J. G. M. Thewissen. 2004. Encyclopedia of marine mammals. Academic Press, San Diego.
- Reeves, R. R., W. F. Perrin, B. L. Taylor, C. S. Baker and S. L. Mesnick. 2004. Report of the Workshop on Shortcomings of Cetacean Taxonomy in Relation to Needs of Conservation and Management, April 30—May 2, 2004, La Jolla, California. NOAA Technical Memorandum NMFS NOAA-TM-NMFS-SWSFC-363, 94pp.
- The Times. Atlas of the world. 9<sup>th</sup> ed. Random House, New York.
- Tomilin, A. G. 1957. Kitoobraznye [Cetaceans]. Vol. 9 in V. G. Heptner (Ed.), Zveri SSSR I prilozhashchikh stran. Zveri vostochnoi Evropy i severnoi Azii. [Mammals of the

- U.S.S.R. and adjacent countries. Mammals of eastern Europe and northern Asia]. Akad. Nauk, SSSR, Moscow, 756pp. Translation (by O. Ronen): 1967. Mammals of the U.S.S.R. and adjacent countries. Mammals of eastern Europe and adjacent countries [*sic*]. Israel Program for Scientific Translations, Jerusalem, 717pp.
- Van Beneden, P. J. 1861. Recherches sur la faune littorale de Belgique – Cétacés. Mémoires de l'Académie Royale Sc. Lettr. Beaux-Arts Belg. 32:3—38, pl 1-2.

## Appendix 1.

### SPECIMENS LISTED BY TOMILIN (1957) AS IN THE COLLECTIONS OF THE ZOOLOGICAL INSTITUTE, ST. PETERSBURG, BUT NOT SEEN IN PRESENT SURVEY

(Quotes from 1967 translation)

*Delphinapterus leucas* – “..seven skeletons and 39 skulls – including five skeletons from Yamal, one from the Murman Coast, and one from Novaya Zemlya; 14 skulls from the Kara Sea (collections of Sidirov, Baer, Polykov, Nosilov, F. Shmidt, Russian Geological Society, and Adrianov), one from Murman, one from Spitsbergen, eleven from the Far East (collections of the Pacific Fisheries Institute), and twelve from an unidentified area (Arctic Institute collections).

No complete skeletons and only 3 skulls (Spitsbergen, Novaya Zemlya and Yenisey River) were seen.

*Monodon monoceros* – “..(two skulls, No. 6866 and 21980, and a complete skeleton of a male, No. 15766, with the attached tusk of another specimen).”

An unlabeled complete skeleton on exhibit is presumably 15766. The other two skulls were not seen .

*Phocoena phocoena* – “..11 complete skeletons, 7 skulls, one stuffed specimen, and 5 fetuses from the Gulf of Finland, Ladoga, the Far East (probably Bering I.), the Black Sea, and Murmansk.”

Only 5 complete skeletons (one unnumbered), one postcranial skeleton, 2 skulls (one unnumbered), and 1 mandible were found.

*Neophocaena phocaenoides* – “Complete skeleton (No. 71-96, 105cm in length) and complete dermal cover (No. 71-97) of a young; 116-cm-long animal..”

No labeled material of this species was encountered. It is possible that either ZMAN 21985 (labeled “*Phocoena*”) or one of the other specimens labeled *Phocoena phocoena* is of this species.

*Phocoenoides dalli* – “Skull No. 11443 and complete skeleton No. 46-1896..”

The complete skeleton was not found.

*Lagenorhynchus albirostris* – “One complete skeleton in the ZMAN collection (No. 101-1895, from Vardo, Faeroes).”

No material of this species was found.

*Delphinus delphis* – “...16 skulls from the Black Sea, two skulls from the Canary Islands and Rio de Janeiro,..”

The collection now contains only 14 skulls from the Black Sea. One labeled “Atlantic” may be the specimen from the Canary Islands.



*Stenella coeruleoalba* – “One skull of juvenile animal (No. 11438, ‘Delphinus, 1875, Gebhardt,’ presumably from the Atlantic.”

As noted in the catalog above, No. 11438 is a cranially mature specimen of *Stenella longirostris*.

*Orcinus orca* – “..a complete skeleton (8.6m long) from Kandalaksha Bay (White Sea), two skulls from the Commander Is. And four unlabeled skulls.”

The four skulls were not seen.

*Globicephala melas* – “Two skulls from the Faeroes..., and one skull of unknown origin,.”

Only one mandible (without teeth), from the Faroos, was seen.

*Mesoplodon stejnegeri* – “..two skulls (No. 21981 and 22529, with a lower jaw, both from the Commander Is.)..”

Only two unlabeled left rami were found.

*Ziphius cavirostris* – “..four skulls.. Two were sent by N. A. Grebnitskii, in 1880, from the Commander Islands. The other two (unlabeled and seaworn) were brought from the Bering Sea (probably, Kamchatka) by Voznesenskii ca. 1884.”

Only one (unnumbered) skull was found.

*Hyperoodon ampullatus* – “..a complete skeleton 6.9m in length (No. 7961, Vardo I., Faeroes, 16 May 1895).” “According to old sources (A. Shtraukh, 1889), a skull had been acquired in Revel for the Museum of St. Petersburg (it cannot be found in the ZMAN collection.”

The unnumbered complete skeleton on exhibit is presumably 7961.

*Physeter macrocephalus* – “..two lower jaws, one from the Antarctic, the other of unknown origin).”

In addition to the unnumbered cranium and mandible on exhibit, one unnumbered mandible was found.

*Balaena mysticetus* – “..a 5.38 m long lower jaw from the North Pacific, vertebrae and parts of flipper bones (No. 16937-16941) from Tazovskaya Bay (Yamal Peninsula), .and tympanic bones of unknown origin (No. 91-a).”

One of the two unidentified and unnumbered rami may be of this species. No other specimens were found.

*Eschrichtius robustus* – “..bulla tympani (cetoliths), whalebone,..collected by the ‘Aleut’ whaling fleet.

Only a complete mounted skeleton was seen (on exhibit).

*Balaenoptera acutorostrata* – “..three in the ZMAN collection (one without rostrum, probably from the Baltic; the other of unknown origin; the third was brought in 1903 from the Barents Sea, together with cervical vertebrae No. 118, by the Russian Polar Expedition). ..also a piece of the lower jaw (No. 263, 1938) from the Sea of Japan (Valentin Inlet) and several tympanic bones.”

Only one unnumbered cranium (complete, on exhibit) was seen.

*Balaenoptera borealis* – “..one complete skeleton (15 m in length, from Antarctica, presented by the ‘Slava’ fleet) and one skull (318 cm in length, brought by Carl von Baer in 1867-1869 from the Gulf of Dvina, opposite the Lapominka village, White Sea).”

No material of this species was seen.

*Balaenoptera physalus* – “..No. 16200, skeleton (complete) of a whale 12m in length, stranded in winter 1930 on the shore of Kola Bay); one incomplete skeleton (ZMAN No. 126, stranded in Kola Bay in summer 1930);..” “..a cervical unit of the 18m whale killed in the Barents Sea in mid-March 1935.”

No material was seen. One of the unnumbered rami could be of this species.

*Megaptera novaeangliae* – “..a complete skeleton (8.6m in length) and two skulls (one complete and one defective)... The complete skeleton (No. 7960) belongs to a 10.6 m female killed by fishermen on 10 April 1851 near Rammosaar I., 50 km east of Vevel (Tallinn). The specimen, examined by Academicians Baer and Middendorf, was acquired by the Imperial Academy of Sciences (K. Hubner, 1852).” “The two skulls were received from the Far East. It is to these that Van Beneden’s report (1889) concerning two incomplete humpback skeletons brought back from the Pacific apparently refers; one of the skeletons was brought by A. Chamisso (1823) aboard the sloop-of-war ‘Ryurik.’ The skeletons could not be mounted at the time for the lack of room, and by now a considerable number of the vertebrae have been lost.”

No material was found. One of the unnumbered rami could be of this species.

## Appendix 2.

SPECIMENS LISTED BY TOMILIN (1957) AS IN THE COLLECTION OF THE  
ZOOLOGICAL MUSEUM OF MOSCOW STATE UNIVERSITY BUT  
NOT SEEN IN PRESENT SURVEY  
(Quotes from 1967 translation)

*Delphinapterus leucas* – “..a complete skeleton (brought in 1908 by B. M. Zhitkov from the Yamal Peninsula) and 31 skulls..”

The complete skeleton was not found.

*Monodon monoceros* – “..two teeth..”

No material was found.

*Phocoena phocoena* – “..one complete skeleton (No. 1267, origin not known), 20 skulls from the Black Sea, and two skulls from Kola Bay.”

The complete skeleton was not found.

*Lagenorhynchus obliquidens* – “..four skulls and three skeletons (collected by Sleptsov in the Far East).”

Only one specimen, a complete skeleton, was found.

*Delphinus delphis* – “..41 skulls from the Marine Mammals Laboratory of the VNIRO” [later transferred to ZMMGU]. “..a complete skeleton..”

The complete skeleton was not found.

*Orcinus orca* – “..complete skeleton from the North Atlantic (5.51 m in length) and a skull from unknown area.”

Two skulls only were seen.

*Physeter macrocephalus* – “A fragment of lower jaw (origin unknown)..”

No material found.

*Balaena mysticetus* – “..two lower jaws (origin unknown), two cervical units (No. 967 and 863) from Wrangel I...”

No material found.

*Balaenoptera borealis* – “..complete skeleton...(No. 970, length 501 cm, from the North Atlantic)..”

No material found.

*Balaenoptera physalus* – “..two skulls of 350 and 410 cm ....and a series of tympanic bulla..”

No material found.

*Balaenoptera musculus* – “..the skull and most of the skeleton of a 25.62m animal from the European sector of the Arctic.. In 1740, this skeleton was presented by P. Kargin to St. Petersburg Museum. Later it was transferred to the Moscow Zoo, and from there to the Zoological Museum.”

No material found.

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