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ANTARCTIC ANIMALS IN THE COLLECTION OF ZOOLOGICAL MUSEUM OF THE IVAN FRANKO NATIONAL UNIVERSITY OF LVIV

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Реферат: У статті подано коротку історію формування та результати аналізу колекцій антарктичних видів тварин, які представлені більше ніж 300 зразками і зберігаються у Зоологічному музеї Львівського національного університету імені Івана Франка.

Реферат: В статье описана краткая история формирования и результаты анализа коллекций антарктических видов животных, которые представлены более чем 300 экспонатами и хранятся в Зоологическом музее Львовского национального университета имени Ивана Франко.

Abstract: The article presents a brief history of the formation and analysis of collections of Antarctic species of animals, which are stored in the Zoological Museum of Lviv National Ivan Franko University, and presented more than 300 specimens.

Key words: Antarctic, animals, collection, Zoological Museum, Lviv

Introduction

Antarctic is one of the most interesting continents on Earth. It is characterised by rough conditions and rich fauna and is one of the best protected continents on the world wide scale. No animals are allowed to be killed and collected in Antarctica according to the International Agreement that was signed on December 1, 1959. Only animals that died from natural causes or accidentally can be collected. This agreement is enforced by 44 countries of the world. Additionally, the Convention on conservation of marine resources of Antarctica was signed in Canberra in May 1980. It was followed by three more international agreements: Annex II to the Protocol on Environmental Quality under the Antarctic Treaty: Conservation of Antarctic Fauna and Flora (in 1991 known as the "Agreed Measures for the Protection of flora and fauna of Antarctica"); Convention for the Conservation of Antarctic seals and International Convention for the regulation of whaling. These decision of the international community had strong impact on the way how collections of the natural history museums are being enriched now with Antarctic specimens. First of all, not every museum can have material from Antarctica. And the one that have usually carry very few sparse animal specimens. Stuffed specimens of penguins, gulls and terns as well as shells of molluscs are the most common exhibits in the museums. Since there is very little information available about Antarctic collections in the Ukrainian museums, we consider it important to present a brief overview of the creation and expansion of the collection of Antarctic specimens in the Zoological Museum of the Ivan Franko National University of Lviv.

Idea of collecting of Antarctic specimens

The idea of collecting Antarctic specimens for the museum arose long ago. Zoological Museum was founded in 1823, however first Antarctic animals appeared in its collections only in the middle of the 20th century. Only in August 1955 F.Y. Strautman, than the dean of the Faculty of

Biology, together with E.K. Lazarenko, who was the rector of Ivan Franko National University of Lviv, sent a request to the Captain of the whaling company “Slava” to collect some Antarctic animals for the Zoological Museum. The request included: skeletons of the sperm whale and of one of the baleen whales, frozen specimens of birds including penguins, albatrosses, petrels and gulls, preserved specimens of fish (fishes of the family Nototheniidae, Exocoetidae, *Lycodes* sp., *Borostomias* sp., *Cryodraco* sp.), mammal skins (south-american fur seal *Arctocephalus gazella*, sea lion *Otaria byronia*, elephant seal *Mirounga leonine*, leopard seal *Hydrurga leptonyx*, crabeater seal *Lobodon carcinophagus*, weddell seal *Leptonychotes Weddelli*) etc. The request was gladly fulfilled already next year in 1956, when trophies from the 10th voyage of the “Slava” whaling fleet included the whole body of the sperm whale *Physeter macrocephalus* (to be made into skeleton), the skull of the minke whale *Balenoptera acutorostrata*, baleen plates from eight species, spare bones and embryos of six baleen whales (including one of humpback whale *Megaptera novaeangliae*) and other marine animals from the southern seas (Куликов, 1956; Шидловський, 2003; Затушевський, Шидловський, 2007; Шидловський, Дикий, 2009; Шидловський, 2009). This gift was very valuable for the museum and also coincided with the 700th year anniversary of the city of Lviv.

The body of the sperm whale was transported from the port in the separate railroad car. It was subsequently buried in the ground in the “Pogulianka” park for one year for tissues to decompose naturally. After that all the bones were dug out back, cleaned and reassembled in the complete skeleton, which is now one of the most famous exhibits in the mammal section. Second request for specimens was sent to I.O. Zemsky, the scientific leader of the fleet, in 1956. University was asking for a skeleton of one of the baleen whales (blue, minke or fin whale) as well as some other Antarctic animals. This time the request was not fulfilled.

The next big set of antarctic animals were received by the Museum in the 21st century. All specimens were collected by I.V. Dykyy during his work at the 11th Ukrainian Antarctic Expedition in 2006-2007. While working on the “Akademik Vernadsky” Antarctic Field Station Ihor Dykyy collected an enormous collection of invertebrate and vertebrate specimens, which enriched Museum's collections considerably. He brought skins and skulls belonging to 12 bird species that were not represented in the Museum before, in addition to skulls of Antarctic seals, diverse crustaceans, corals, sponges and worms.

Analysis of museums collection of Antarctic animals

Altogether Museum now has over 300 specimens of Antarctic fauna. Molluscs are the major part of invertebrate collection, while birds and mammals constitute the majority of vertebrates. Further below we list Antarctic animals from the collection of the Museum in the framework of animal classification.

Phylum Bryozoa – an unidentified specimen collected March 27, 2006 in the Mik strait near Penguin Poin, Southern Ocean;

Phylum Spongia – probably three different species, 8 specimens. Set includes single specimen of *Dendrilla antarctica* collected on March 26, 2006 in the Stella Creek strait near Galindez island, and two more specimens from the Southern Ocean coast of the Galindez island. Other sponge species were collected on August 14, 2006 in the Mik strait near Galindez island;

Phylum Coelenterata, Classis Anthozoa (Hexacorallia, Actinia) – unidentified specimens collected on August 14, 2006 in the Mik strait near Galindez island;

Phylum Nemertini – single species *Parborlasia corrugans*, 13 specimens all were collected on March 26, 2006 in the Mik strait near Galindez island;

Phylum Mollusca, Classis Gastropoda and Bivalvia – about 10 species, 127 specimens. Includes: *Nacella kerguelensis* and *N. concinna* (21 specimens were collected in 2006 in the Stella Creek, Mik, Penola and Slip straits on the Galindez island and on the Rasmussen island); *Laternula*

elliptica (three specimens collected in February and October 2006 near the Penguin Point, in the Penola strait on the Galindez island); *Trophon albolabratius* (one shell collected on August 28, 2006 on the Pigeon Point on the Galindez island, and two other specimens probably belonging to this species from the Penguin Point collected on October 11, 2006); *Yoldia eightsi* (ten shells collected on March 24, 2006 in the bay in the Stella Creek strait near the Galindez island); *Neobuccinum eatoni* (three shells collected in the Penola and Mik straits); *Marseniopsis mollis* (one specimen of this species was collected on February 24, 2007 on the Jetty pier);

Phylum Arthropoda (Crustacea, Isopoda) – two species, 29 specimens including *Glyptonotus antarcticus* (were all collected on June 27, 2006 in the Jetty strait);

Phylum Echinodermata (classes Asteridea and Echinoidea) – probably four species, 61 specimens including *Sterechinus neumayeri* (two specimens collected in February 2006 in the Stella Creek strait), *Odontaster validus*, *O. meridionalis*, *Neosmilaster* sp. (all collected between June 15, 2006 and February 17, 2007 on the islands of Galindez, Corner and Winter);

Phylum Brachiopoda – single specimen was collected on April 12, 2006 in the Stella Creek strait on the side of the Bellinshausen sea.

Phylum Tunicata (classes Ascidia and Salpae) – two species, ten specimens of which were collected on March 26, 2006 near the Thumb Rock in the Stella Creek strait;

Phylum Chordata (superclassis Pisces, classis Osteichthyes) – four specimens belonging to three species including *Harpagifer antarcticus* (caught on February 17, 2007 in the Stella Creek strait), two specimens of *Trematomus bernacchii* (both caught on October 11, 2006 near the Penguin Point) and *Notothenia* sp. (caught on February 12, 2007 in the Jetty strait);

Classis Aves – eleven species altogether, 43 specimens including *Pygoscelis papua* (one adult female was found dead on March 31, 2006 on the Galindez island, two skulls from the islands of Black and Galindez collected on March 19, 2006 and March 25, 2009 respectively, and one egg shell found on November 25, 2006 on the Small Yalury island); *P. adeliae* (two pulls were found dead on 2006 and January 13, 2007 on the Yalury island, adult skull found on February 19, 2007 on the Galindez island and five egg shells were collected on February 16, 2007 on the Great Yalury island); *P. antarcticus* (bird remains were found on March 18, 2006 on the Three Little Pigs island); *Aptenodytes patagonicus* (bird skull was found on the island of South Georgia in January 2007); *Phalacrocorax [atriceps] bransfieldensis* (two skulls and two dead birds were found during February-September 2006 on the Galindez island); *Pagodroma nivea* (dead bird was found on June 1, 2002 on the Galindez island and two more skulls collected on March 26, 2006 on the Galindez island and on February 21, 2007 on the Peres cape of the Antarctic peninsula); *Oceanites oceanicus* (one bird was found dead but does not have precise label); *Chionis alba* (two birds found dead on the island of Galindez in 2002 and 2007 respectively, and one skull was found on January 17, 2007 on the same island); *Sterna vittata* (dead bird was found on 2003 on the island of Galindez, one skull was collected on February 13, 2007 in the Stella Creek strait and one egg was collected on December 20, 2006 on the Great Yalury island); *Larus dominicanus* (one dead bird was found in 2002 and two skulls were collected on February 2006 on the Galindez island); *Catharacta [skua] maccormickii* (one pull was found dead near the nest on February 19, 2006 on the Galindez island, and one skull and two dead adult birds were found in the same place in February 2006; furthermore, tree eggs were collected in 2007 on the Galindez island).

Classis Mammalia – approximately ten species (35 specimens), mainly jaws, jaw parts and teeth of seals (including *Lobodon carcinophagus*, which lower jaw was found on the island of Rasmussen on February 20, 2006, one complete and one incomplete skulls found on the Galindez island in 2002 and Black island in 2006 respectively; two skulls of *Arctocephalus gazella* collected in 2006 in the Mik strait and on the island of Skua; also *Mirounga leonine*, *Leptonychotes Weddelli*, *Physeter macrocephalus*, *Balenoptera acutorostrata*).

Most of the Antarctic specimens in the collection of Zoological Museum are dry-preserved, such as shells, skeletons, skins, exoskeletons and bones, bird eggs, and dried embryos. Very few whole

specimens were preserved in liquid fixatives. Geographically, majority of the specimens were collected on the Galindez island and around it in the ocean, especially in the neighbourhood of the "Akademik Vernadskyy" field station, also in Stella Creek and Mik straits, near the Jetty pier and in the bas of Pigeon Point, Penguin Point and Marina Point. Some specimens originated from other islands of Argentina archipelago, including Grotto, Rasmussen, King Georg, Winter, Corner, South Georgia, Black, Howgard, Bruce, Krulse, Skua, Great and Small Yalury, Three Little Pigs. On the other hand, "Slava" expedition was collecting specimens all over the Antarctic region.

On the overall, the collection of Antarctic animals in the Zoological Museum of the Ivan Franko National University of Lviv includes almost 50 species belonging to 10 phyla of the Animal Kingdom. These specimens make part of the exhibition as well as scientific collection, and allows Museum to attract public attention and educate peoples about the nature conservation and protection of unique natural habitats.

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