

**SCIENTIFIC ACTIVITY OF D. SC., PROF. ERNEST SAMYSHEV
(TO HIS 85th BIRTHDAY)**



On 28 October, 2022, Ernest Samyshev – D. Sc., Prof., the head of IBSS marine ecosystems functioning department – celebrates his anniversary.

E. Samyshev began his scientific activity after graduating from the faculty of ichthyology of the Kaliningrad Technical Institute for the Fishery Industry in 1963. He worked as an assistant and at the same time studied hydrobiology at the PhD graduate school of this institute under the guidance of professor N. Gaevskaya and her deputy, associate professor N. Berezina. In 1965–1969, he participated in the International Program for Investigating the Tropical Atlantic (ISITA) and carried out a wide range of trophoecological and biochemical studies of zooplankton and content of suspended organic matter in different seasons of the year. The obtained results formed the basis of his PhD thesis “Trophological and Biochemical Aspects of the Study of Seston Components in the Tropical Zone of the Eastern Atlantic” de-

fended in 1970 at IBSS of the Academy of Sciences of the Ukrainian SSR. In 1968, he began working at the Atlantic branch of the All-Union Research Institute of Fisheries and Oceanography (AtlantNIRO) and resumed the work of the hydrobiology sector there, which had ceased to function by that time for a number of reasons.

Since 1974, he worked at the Sea of Azov–Black Sea Research Institute of Fisheries and Oceanography (AzCherNIRO) as a head of the fish food base laboratory. Later, it was renamed on his initiative into the hydrobiology laboratory.

In 1979–1988, benthologists of this laboratory under the guidance of Ernest Samyshev carried out fundamental studies which made it possible to assess the negative contribution of three components (eutrophication, soil dumping during dredging, and bottom fishing causing destruction of bottom biocenoses and resedimentation) to the transformation of various biocenoses. Despite attempts to counteract, E. Samyshev showed civil courage, publicizing these results at scientific forums, and finally achieved a ban on the barbaric method of sprat fishing in the Black Sea and commercial mussel fishing in the Black Sea with dredges.

He paid special attention to research in the Antarctic. It was he who organized the world’s first comprehensive monitoring in the Cooperation Sea area (1976–1987). This allowed to study the main structural and functional characteristics of the Antarctic krill and other key components of the community

in its range, as well as to assess their functional role and to analyze scale of reproduction and assimilation of matter and energy in the pelagic zone. Ernest Samyshev's conclusion on the significant trophic imbalance of the Antarctic pelagic community is very important for science.

The results of AzCherNIRO research in the Antarctic, carried out under his guidance, served as the basis for his D. Sc. dissertation "Antarctic Krill and the Structure of the Plankton Community in Its Range" defended in 1987 at the Institute of Oceanology of the Academy of Sciences of the Soviet Union. By decision of the specialized council, the dissertation was published in 1991 by the "Nauka" publishing house.

In 1988–1990, under the guidance of E. Samyshev (deputy director for research at AzCherNIRO and head of the mariculture department), the technology for breeding so-iuy mullet in the Black Sea was developed and implemented.

His scientific and organizational activities during years of work at AzCherNIRO are impressive. He was expert (1974–1983) and member of the bureau (1984–1989) of the Ichthyological Commission of the USSR Ministry of Fisheries; scientific consultant of the Mariculture Council under the State Committee for Science and Technology (1988–1990); member of the working group on Antarctic krill of the Scientific Committee on Antarctic Research (SCAR) (1990–1991); and permanent head of the Kerch branch of the All-Union Hydrobiological Society (1975–1989).

In 1990, Ernest Samyshev began to work as a chief researcher of the marine ecosystems functioning department at IBSS. Since 1991, he heads this department. In the same 1990, under his guidance and with his participation, a comprehensive monitoring of Donuzlav Lake was carried out. Its results were used in the biological justification for the development of this lake for fish breeding and commercial cultivation of so-iuy mullet and European flounder.

He took part in the development and implementation of the program of a unique experiment to study the annual cycle of the main components of the Black Sea pelagic ecosystem. This experiment was carried out in 1992–1993 by the staff of the Ukrainian Scientific Center of Ecology of Sea (Odesa) of the Ministry of Environmental Protection, with the involvement of IBSS specialists.

While working at IBSS, he continued his Antarctic research. Professor Samyshev became the author of projects on bioresources in the National Antarctic Scientific Program of Ukraine (1996–2000, 2001–2010), scientific supervisor of biological research in the Ukrainian Antarctic expeditions (1997, 1998, 2002), and author and scientific supervisor of monitoring projects of the current state of coastal ecosystems in the Ukrainian Antarctic station "Akademik Vernadsky" area. Based on this environmental monitoring, a holistic view of the structural organization of the aquatic ecosystem was obtained for the poorly studied coast of the Argentine Islands archipelago adjacent to the station.

Ernest Samyshev calculated the nutritional requirements of the main heterotrophs – bacterioplankton, ciliates, mesozooplankton, krill, and Thaliacea – in the Antarctic plankton under different scenarios for the Atlantic sector of the Antarctic. The results of long-term studies of the Antarctic ecosystem under his guidance



E. Samyshev at the highest point of Galindez Island (Argentine Islands archipelago, Atlantic sector of the Antarctic)

during Soviet and Ukrainian expeditions are presented in the monograph “Structural and Functional Organization of the Antarctic Plankton” prepared for publication. In general, the data on his Antarctic research formed a theoretical basis for further study and understanding of the Antarctic ecosystem functioning.

Professor Samyshev is a productive supervisor for many young researchers. Under his scientific guidance, 10 PhD theses were defended. It is worth quoting here the fragment of the review in support of the nomination of Ernest Samyshev as a corresponding member of the National Academy of Sciences of Ukraine in 2012. The review was written by his student, now a professor at the University of British Columbia (Vancouver, Canada) and director of the Institute for the Oceans and Fisheries – Evgeny Pakhomov. “To sum up professor Samyshev’s accomplishments over the past three decades, I would like to point out that most of his works either broke the foundations and habitual ideas, or shook them. He is undoubtedly an innovator in many ways; at the same time, his conclusions are based on the most solid, reproducible data. The novelty and merits of his research have been tested and are undeniable, and this is well known among researchers within the countries of the former Soviet Union and abroad. In general, and this is by no means an exaggeration, I consider professor Samyshev one of the best (perhaps, in the top ten) biological oceanographers and marine ecologists in the world.”

Dear Ernest Samyshev, we wish you good health, cheerfulness, happiness, new achievements, and creative successes!

*Leading researcher of IBSS marine ecosystems functioning department,
PhD N. Minkina*

**О НАУЧНОЙ ДЕЯТЕЛЬНОСТИ
Д. Б. Н., ПРОФ. ЭРНЕСТА ЗАЙНУЛЛИНОВИЧА САМЫШЕВА
(К 85-ЛЕТИЮ СО ДНЯ РОЖДЕНИЯ)**

28 октября 2022 г. свой юбилей отметил Эрнест Зайнуллинович Самышев — руководитель отдела функционирования морских экосистем ФИЦ ИнБЮМ, доктор биологических наук, профессор, автор более чем 270 научных работ, лауреат Государственной премии Украины в области науки и техники 2007 г. Сфера его научных интересов — гидробиология, экология, биоценология, антропогенная трансформация морских экосистем, марикультура рыб и беспозвоночных.