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OBITUARY

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## In Memoriam Alexander I. Kafanov<sup>1</sup>

DOI: 10.1134/S1063074007050161



On April 26, Prof. Alexander Ivanovich Kafanov, the Honorary President of the Russian Far East Malacological Society, Honored Worker of Science of the Russian Federation, Principal Research Scientist of the A.V. Zhirmunsky Institute of Marine Biology of the FEB RAS, and Doctor of Biological Sciences, died prematurely at the age of 59. A.I. Kafanov was a prominent biogeographer and ecologist, a specialist in evolutionary and historical biology, and a recognized expert on the Cenozoic bivalve mollusks of the Northwestern Pacific.

Alexander Ivanovich Kafanov was born on October 21, 1947 in Krasnodar City in the family of a Soviet Army officer. The difficult and turbulent life of an officer threw the Kafanov's family to the Northern Cau-

casia in North Ossetia, where A.I. Kafanov spent his youth in Ordzhonikidze City (now Vladikavkaz). He spent most of his free time on excursions in the picturesque valley of the Terek River, at the foothills and alpine areas of the Central Caucasus Ridge. He showed an interest in biology and natural history at a very early age when he was a schoolboy. By the time Alexander became a senior pupil, he already had a comprehensive collection of the terrestrial and freshwater mollusks of the Central Caucasia and eastern pre-Caucasia. When Alexander found a species *Pomatias rivulare* (Eichwald, 1829), which was distinguished from other terrestrial gastropod mollusks in having an operculum, and failed to identify it using the available literature, he applied for information to the Zoological Institute of the USSR Academy of Sciences. Following the advice of Prof. I.M. Likharev, A.I. Kafanov became specialized at the Department of Zoology of the North Ossetic

<sup>1</sup> Materials of the personal archive of A.I. Kafanov were used in the preparation of this paper.

Teachers Training Institute and Department of Biology of the North Ossetic Medical Institute. At that time, he mastered the anatomical dissection of terrestrial and freshwater mollusks using primitive instruments he made himself from entomological pins and razor blades and he was able to identify molluscan species. At the age of 16, he delivered a presentation at the annual conference for students and lecturers of the North Ossetic Teachers Training Institute, which was entitled "The Composition and Distribution of Terrestrial Mollusks on the Eastern Slope of the Fethuz Mountain Range (Central Caucasia)."

After graduation from school (with a gold medal), Kafanov entered the Biological and Soil Science Faculty of Rostov State University, where he simultaneously specialized in the taxonomy of marine mollusks and parasitology in the Department of Zoology and on biogeochemistry in the Department of Geochemistry. At the time of his graduation from the university, Kafanov was the author or co-author of eight scientific papers; some of which were published in recognized scientific journals. It was at this time that a distinctive feature of Kafanov was revealed—his ability to work professionally in very different branches of science, from the taxonomy and biogeochemistry of mollusks to the epizootology of parasitic worms and changes in the trophic relationships of insects in relation to the irrigation of agricultural fields. However, his "love" of the bivalve mollusks of the family Cardiidae, which developed in his university years, was present throughout his life.

In December 1971, being invited by A.V. Zhirmunsky, Alexander Ivanovich became a Senior Assistant in the Laboratory of Physiological Ecology in the Institute of Marine Biology of the Far East Science Centre of the USSR Academy of Sciences, and then in two months, after passing all candidate's examinations, he entered Ph.D. Courses at the Zoological Institute of the USSR Academy of Sciences, where his science advisor was Corresponding Member of the USSR Academy of Sciences O.A. Scarlato. The topic of his Ph.D. Thesis was "The Fauna of Bivalve Mollusks of the Family Cardiidae of the USSR Seas."

After graduation from his Ph.D. courses, Kafanov returned to the Institute of Marine Biology to work in the Laboratory of Chorology headed by O.G. Kussakin. His entire scientific life was connected with this Institute, where he went from being a Senior Laboratory Assistant to a Scientific Secretary and the Head of a Laboratory. In 1986, the Laboratory of Ecosystem Dynamics headed by A.I. Kafanov was transferred to the Kamchatka Branch of the Resource Management Department of the Pacific Institute of Geography. Kafanov was deeply involved in the arrangement of the future Kamchatka Institute of Ecology and Resource Management of the FEB RAS

and was promoted significantly to the organization of that Institute. In 1991, after defense of his Doctor of Science Thesis, A.I. Kafanov returned to the Institute of Marine Biology, where he worked as a Principal Research Scientist, combining scientific and administrative activities.

A.I. Kafanov was the author or co-author of more than 260 scientific papers, including eight monographs. He was an advisor on several Ph.D. theses. He was actively engaged in editing and for many years he was a member of the Editorial Board of *Biologiya Morya* (The Russian Journal of Marine Biology), a scientific editor of several volumes of the journal, and a reviewer of numerous papers; he also edited several collections of papers and monographs. His range of scientific interests was extremely wide, although bivalve mollusks remained the main objects of his biogeographic, ecological, and paleobiological researches. His high international recognition in the taxonomy of recent and fossil (Cenozoic) bivalve mollusks of the Northern Hemisphere and the paleobiogeography of the Northern Pacific is unquestionable.

In 1994, Kafanov organized the Russian Far East Malacological Society (with the support of A.V. Zhirmunsky) and the Annual Bulletin of the society. Kafanov was the president of the society and editor-in-chief of the bulletin until March 2003, when he was forced to cease administrative activities in the society, being too much burdened with scientific work and poor health.

Since the time of his Ph.D. courses, A.I. Kafanov worked on the revision of the recent and fossil (Cenozoic) Cardiidae of the cold and temperate waters of the Northern Hemisphere. The results of these studies were published in 1998–2004. When preparing this revision, Kafanov examined type materials of all recent and fossil species; for that purpose, he used collections deposited in the largest zoological and paleontological museums of Russia, the USA (California), and Japan. The necessity of reconstructing the history of the recent Cardiidae forced him to study paleontological material. For nearly 30 years he was a recognized expert on the taxonomy and geochronological distribution of the Far Eastern members of this family. Kafanov was happy to share a letter with his colleagues from the Director of the Geological Institute of USSR Academy of Sciences, Acad. V.V. Menner to the Director of the Institute of Marine Biology, Acad. A.V. Zhirmunsky, in which V.V. Menner requested that he be released from the seasonal farm jobs that were obligatory at that time and allowed him to continue working on the "Atlas of the Fauna and Flora of the Neogene Deposits of the Far East."

In 1991, Kafanov presented his Doctor of Science Thesis entitled "Bivalve Mollusks and Faunistic Biogeography of the Northern Pacific," which was simultaneously published as a monograph; the material for this work was based on the annotated checklist of Bivalvia of the shelf and continental slope of the entire Northern Pacific compiled by A.I. Kafanov earlier. He not only presented a zoogeographical scheme of the Northern Pacific as evidenced by bivalve mollusks, but also contributed much to the theory of faunistic biogeography.

In his last years, A.I. Kafanov worked on a book on the historical biogeography of the Northern Pacific, along with the elaboration of the historical and methodological principles of general biogeography. For that purpose he did an unprecedented work to compile the annotated checklist of Cenozoic bivalves of the Russian Far East (in cooperation with Japanese and American colleagues). As a result of his examination of type materials, he could clarify the taxonomic position and geochronological distribution of 1227 species and subspecies of marine and freshwater bivalve mollusks belonging to 54 families and 225 genera and subgenera. The results of his efforts became a reliable basis from which to distinguish major stages in the evolution of the Cenozoic fauna of Bivalvia. For example, it became possible to retrace the distribution of 11 molluscan zones in the entire Northern Pacific and to correlate them to the

major stages of Cenozoic Diversification in the North Pacific fauna.

In recognition of A.I. Kafanov's scientific achievements, four new species were named after him: *Anadara kafanovi* Lutaenko, 1994 (Bivalvia, Arcidae); *Crystallophrisson kafanovi* Ivanov, 1984 (Aplacophora, Crystallophrissonidae); *Lymnaea kafanovi* Kruglov et Starobogatov, 1984 (Gastropoda, Lymnaeidae); and *Musculium (Parvimusculium) kafanovi* Starobogatov in Starobogatov et Korniushev, 1987 (Bivalvia, Sphaeriidae). A.I. Kafanov himself described 68 new valid taxa of Bivalvia (including 11 families, 10 genera, and 47 species). The bulk of the new taxa were described in the course of revision of Cardioidea. The remainder of the taxa were proposed when he compiled annotated checklists of the recent and Cenozoic bivalve mollusks of the Russian Far East.

Alexander Ivanovich did not quite reach his 60th anniversary. Until his last day, he was full of creative power and future plans, two days prior the death, he chaired the Memorial Meeting in honor of Acad. O.G. Kusakin he had organized, he was preparing a collection of papers from the meeting and was planning a new trip to Japan. He left behind many uncompleted papers and books and a huge scientific heritage. However, he and his ideas will always be in the memory of colleagues, thankful followers and the world scientific community.

*Editorial Board, Biologiya Morya  
(Russian Journal of Marine Biology), Vladivostok*