

## Dedicated to the centennial of Afanasy Akimovich Makarov

*N. S. Danilova<sup>1</sup>✉, V. E. Kardashevskaya<sup>2</sup>*

<sup>1</sup>Institute of Biological Problems of the Siberian Branch of the Russian Academy of Sciences, Yakutsk, Russia

<sup>2</sup>M.K. Ammosov North-Eastern Federal University, Yakutsk, Russia

✉ nad9.5@mail.ru

The year 2024 marks the 100th anniversary of the birth of Afanasy Akimovich Makarov (10.02.1924-11.10.1983), a major Yakut botanist, teacher and public figure. He devoted his whole life to the development of Yakutsk University, worked his way up from assistant to vice-rector.

Afanasy Akimovich was born on 10 February 1924 in the village of Sytan, Churapchinsky district. In the spring of 1939, he graduated with honours from Kytanakh seven-year school and was awarded a voucher to the All-Union pioneer camp "Artek". This trip left a strong trace in the young man's soul and determined, as he wrote in his memoirs, his entire future life. It was then that he had a dream of becoming a teacher, and he entered the Churapcha Pedagogical College. In 1942, he successfully graduated from the college and started working as a teacher at the secondary school.

In 1943, he was drafted into the army. On the Eastern front, rifleman-machine gunner Afanasy Makarov took part in battles against Japanese militarists to liberate Manchuria, was in Harbin, Mukden, Chang-Chun. A.A. Makarov, a junior sergeant of 649-rifle regiment of 210-rifle division of the Transbaikalian front, was awarded with combat medals "For bravery", "For victory over Japan" and was discharged in February 1946.

In 1946, A.A. Makarov entered the Yakut State Pedagogical Institute (YSPI) at the Faculty of Natural Sciences. In 1950, he graduated with a degree in biology and chemistry and was assigned to Churapcha secondary school.

In 1952, Afanasy Akimovich was invited to teach at the YSPI, and from that moment, his whole life was connected with Yakut education. From 1952 to 1983, he worked at the Department of Botany of the Faculty of Biology and Geography as an assistant, senior lecturer and associate professor, headed the Department of Botany (1966-1974), was Dean of the Faculty of Biology and Geography (1964-1970) and Vice-Rector of the University for Academic Work (1975-1979).

In 1956, when the Pedagogical Institute was reorganised into a university, A. A. Makarov was already one of the leading teachers of the Botany Department, and his field of scientific interests was determined - the medicinal flora of Yakutia. He enthusiastically worked with students, read basic disciplines and special courses on botany, supervised course and diploma works of students, took an active part in the work on creation of scientific and pedagogical base of higher biological education in Yakutia. At the same time, he collected scientific material, laying the foundations of medicinal resource science of Yakutia, during these years the beginning of experimental research on the study of pharmacological, toxicological and phytoncide activity of medicinal plants was laid. In 1963, Afanasy Akimovich successfully defended his dissertation "Alkaloid-bearing plants of Central Yakutia" for the degree of Candidate of Biological Sciences at the dissertation council of Tomsk State University.

In 1966, he was appointed Head of the Department of Botany and Dean of the Faculty of Biology and Geography. Thanks largely to his efforts, a remarkable team of botanists of the university was formed. Z. Skryabin, one of the best connoisseurs of Yakut flora, the only Yakut botanist who discovered two completely new plants for science, M. N. Mordinova, who was one of the first to carry out introduction studies of wild medicinal plants, Y. A. Rykova, a specialist in lichenology. There was an influx of new young personnel, N. I. Borisova, V. E. Kardashevskaya and others. On the initiative of Afanasy Akimovich new special courses were introduced: flora and vegetation of Yakutia, meadow science, geobotany, tundra science, etc. The new courses were introduced. To read these disciplines, in addition

to his own staff, specialists from the Institute of Biology of the YaF SB AS USSR were also invited. Thus, for the first time in the history of higher education institutions of the USSR, a new special course "Tundra Studies" was introduced at our university, which was taught by the USSR State Prize laureate, Doctor of Biological Sciences, Professor Vladimir Nikolaevich Andreev - the founder of a new direction of science - tundra studies.

Afanasy Akimovich was one of the first teachers to greet first-year students; he lectured on plant anatomy and morphology for two semesters in the 1st year. We studied with him freely and enthusiastically, although we had no idea about the complexity and subtleties of plant structure. He taught thoroughly and was an excellent lecturer. His lectures were deeply informative, he was able to present a huge and complex material in a short time, and with his characteristic soft and subtle humour he enlivened the lectures.

In 1968, a new main building of the University was put into operation, the possibilities of laboratory research of botanists increased, and along with traditional expeditionary studies, integrated studies of biological resources of Central Yakutia were launched, where teachers and students worked together. It became possible to further develop the Herbarium, the beginning of this scientific and educational structure of the University was laid by A. A. Makarov back in 1963. In 2004, in honour of the 80th anniversary of its organiser, the Herbarium was named after A. A. Makarov.

During the years of A.A. Makarov's leadership of the Faculty of Biology and Geography, the routes of floristic and geobotanical studies in connection with the research work on the complex theme "Biological Resources of the Middle Lena Valley" were expanded. Comprehensive studies of the biological resources of Central Yakutia were organised by a team of teachers and students of the Faculty. On his recommendation, K.E. Kononov established field stations in the Middle Lena valley, where teachers and students of the Department of Geography, Botany and Zoology worked together. In the history of the faculty development, along with traditional expeditionary studies, stationary and integrated studies were initiated.

The contribution of Afanasy Akimovich Makarov to the development of Yakut science and education is enormous. He laid the phytoresource direction in Yakutia, conducted experimental studies of medicinal plants of Yakutia. He is the author of 70 publications; his remarkable book "Medicinal Plants of Yakutia" was reprinted three times in large editions (1970, 1979, 1990), a wide range of readers know his "Plant medicinal remedies of Yakut folk medicine" (1974), textbook "Methods of search and study of medicinal plants" (1981) and monograph "Biologically active substances in plants of Yakutia" (1989).

The last monograph of Afanasy Akimovich "Medicinal plants of Yakutia and prospects of their development" - scientific and civil feat of the scientist - was completed in 1983, before his death. It was published in full author's version only in 2002 in the publishing house "Nauka" in Novosibirsk.

A. A. Makarov was a pioneer in translating school textbooks into Yakut and creating Russian-Yakut terminological dictionaries. During his student years, he translated D. M. Kiryushkin's chemistry textbook for VII class into Yakut so well that this translation survived four editions. Translations of textbooks by B. V. Vsesvyatsky on botany and V. E. Bykhovsky on zoology each had three editions. He compiled the first biological Russian-Yakut terminological dictionary, which for many years served as the only desk book not only for biologists but also for philologists.

Great pedagogical talent and high organisational skills of A.A. Makarov were particularly well manifested during the years of his leadership of the educational work at the university. At the level of the whole university, the complex problems of organising and conducting educational, training, industrial and production practices of students were solved very successfully. Future specialists reinforced their theoretical knowledge obtained in classroom classes with practical skills and abilities acquired in the process of fulfilment of specific production tasks in branch enterprises, institutions, as well as in scientific research both in

nature and in production. Annual scientific and methodological conferences of the university and faculties began to be devoted alternately to specific problems of educational, scientific and educational processes. "Organisation, guidance and control of students' independent work" (1978), "Organisation and ways of improving the educational, scientific and educational work with students at educational, pedagogical and industrial practices" (1979) and "Ways and methods of increasing students' academic activity" (1980). The results of the conferences were reflected positively in the educational, teaching, methodological and educational work.

In October 1983, the higher school and botanical science of Yakutia suffered an irreparable loss. Afanasy Akimovich Makarov lived a short but full life. And how much he achieved! Afanasy Akimovich Makarov devoted his whole life for the service to the university and science, played a significant role in the formation and development of the Botany Department, the Faculty and the entire Yakutsk State University. Many students and followers will never forget his image.