



## **Arctic Scientist, Gulag Survivor: the Biography of Mikhail Mikhailovich Ermolaev 1905–1991**

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ARCTIC SCIENTIST, GULAG SURVIVOR: THE BIOGRAPHY OF MIKHAIL MIKHAILOVICH ERMOLAEV 1905–1991. By A. M. Ermolaev, V. D. Dibner, and translated and edited by W. Barr. Calgary, Alberta: University of Calgary Press, Northern Lights Series, no. 13, 2009. 615 pp. \$44.95 CAD (softcover). ISBN 978-1-55238-256-1.

This book is the staggering story of Mikhail Mikhailovich Ermolaev, an early Russian Arctic explorer, and the hardship of exploration in the Arctic he experienced in the 1920–1930s, his later suffering through the labor camps of the Stalinist period, and how he still kept his scientific inquisitive mind alive and resumed his scientific career from the 1950s onwards. The book is a complete biography with an incredible amount of collected background documentation and photos. It provides a detailed account not just of Ermolaev's life, but also the 20th century history of the Russian Arctic science community. Ermolaev's son is one of the original authors and thus the book branches off to provide many details of the explorer's family, of other Arctic missions, of scientific work of colleagues, and of the situation at the scientific institutions. Unfortunately, M. M. Ermolaev did not keep personal diaries, so the authors had to rely on more tedious compilations of multiple other sources. The amount of detail overwhelms a casual reader, and in my opinion the book serves more the purpose of documenting an era than a simple biography.

In 1925, Mikhail Mikhailovich Ermolaev was only 20 years old when he embarked on his first expedition to Novaya Zemlya as a "geologist-collector" as well as topographic and marine surveyor. In subsequent years he returned to Novaya Zemlya twice, wintered over for the Second International Polar Year in 1932, and participated in high-latitude oceanographic exploration onboard the icebreaker *Sadko* around 1935. Upon his return to Leningrad he found that the political situation had greatly deteriorated. He was charged (rather unjustly) with "sabotage" for not having sufficiently focused his Arctic explorations on rapid exploitation of

minerals. He was arrested and interrogated and eventually was convicted for being a member of a "counterrevolutionary organization." He was deported to a labor camp and luckily, after a year, became part of a team of professionals charged with working on railroad extension. It was not until 1954, after Stalin's death, that Ermolaev and his family were rehabilitated and he resumed his academic career in Kaliningrad University.

Accounts of historic Arctic exploration always incite a great sense of respect for the early explorers and this book is no exception. Travel and communications were much more difficult. The time required to travel to remote Arctic sites is stunning. On his second expedition in 1928, young Mikhail Ermolaev left on the 11th of May and had to travel through the Russian interior and over the Lena River, through difficult sea ice conditions on the Kara Sea to finally arrive at the field camp on the 26th of August. Locally, Ermolaev carried out his mapping and geological reconnaissance tasks with the help of reindeer borrowed from the local Eveny people. The team built a science base camp and established a weather station and a radio mast. They were the first to try to communicate with shortwave radio, and it initially was not very efficient, with communication established with other Russian stations only after a couple of weeks.

In 1932, Ermolaev led the Russian efforts for the International Polar Year, and they pioneered the use of a newly designed "aerosled." The aerosled consisted of an aluminum housing and two aircraft motors, and it could blast over crevasses of the Novaya Zemlya Ice Cap. A glaciological traverse became that much more efficient.

The connections between Novaya Zemlya and the Russian mainland proved especially flaky in 1933. When supply vessels were not able to push through the sea ice of the Kara Sea, it left both the scientific parties and the *promyshlenniki*, the hunters and trappers, without sufficient food and fuel for the winter. A supply vessel, *Krasin*, set out to save people from the desperate situation, but its only means of communication was by radio to the IPY scientific station. Unfortunately, the radio tubes there had blown out. Mikhail Ermolaev and his colleagues set out with the aerosled to traverse the ice sheet carrying a new radiotube, but they ran into major trouble when the aerosled skids froze in, and it broke down. They had to travel 160 km on foot to get back to the closest camp. These accounts were the most interesting part of the book, and could have formed the backbone of a much shorter novel.

Despite difficult logistics the scientific accomplishments of these early scientific explorations were very impressive. M. M. Ermolaev built an understanding of the glacial and periglacial environment that still rings true today. Writing this review while waiting for a pick-up plane on the North Slope of Alaska, it is all the more amazing that Ermolaev was the first scientist to describe and introduce the term "thermokarstic processes." Photos from the late 1920s beautifully illustrate geomorphological features of eroded ice bluffs that we still study today. Ermolaev was largely responsible for the first published detailed topographic and geological maps of Novaya Zemlya. He devised groundbreaking atmospheric experiments and he eagerly picked up sea bottom mapping during the oceanographic expedition onboard *Sadko*.

Ermolaev's scientific work is well described in the book, and appendices list the complete references. The illustrations and photos are carefully collected from several family archives as well as Russian historical and university archives. They provide a rare insight into early 20th century Russian Arctic exploration, now made available to the Western world by William Barr's scholarly translation.

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