New historical evidence continues to shed light on Allied and German plans to use chemical and biological weapons against each other during World War II. Because this evidence is normally published in specialized intelligence, medical, and chemical and biological weapons journals, it has received little attention in military historical journals.

Certainly one of the most spectacular stories has to be that of Kanatjan “Ken” Alibek, who ran the Soviet biological weapons program before defecting to the US. Alibek was born in Kauchuk, Kazakhstan in 1950 and graduated from the military faculty at the Tomsk Medical Institute in 1975, where he majored in infectious diseases and epidemiology. He holds Ph.D.s in microbiology and in biotechnology, helping develop the technology to manufacture anthrax biological weapons on an industrial scale. Alibek joined the Soviet organization Biopreparat in 1975 and was deputy chief of the agency from 1988 to 1992.

Biopreparat sought to modernize existing Soviet biological weapons and develop genetically altered pathogens, resistant to antibiotics and vaccines, which could be turned into powerful weapons for use in warfare. The organization recruited and employed the Soviet Union’s brightest biologists, epidemiologists, and biochemists. The code name for the program was Enzyme. The Enzyme project focused on tularemia, plague, anthrax, and glanders – all diseases that had been successfully weaponized by Soviet military scientists, but whose effects had been undermined by the development of antibiotics. Other pathogens under review included smallpox, Marburg, Ebola, Machupo, Junin, and Venezuelan Equine Encephalitis. The Soviet Union’s biological research was concentrated at army factories in the cities of Sverdlovsk, Kirov, and Zagorsk. These were the only sites classified as “hot mode” – sufficient for work with highly infectious organisms.

The USSR’s Military-Industrial Commission’s Five-Year Plan outlined more than three hundred biological weapons program projects. In 1992,
following the downfall of the Soviet Union and an agreement between the US and the new Russian government to end their biological weapons programs, Ken Alibek defected to the US. He has debriefed the US military intelligence community on the Soviet bioweapons program and is now working on biodefense. In 1999, Alibek authored *Biohazard*, advertised as “The Chilling True Story of the Largest Covert Biological Weapons Program in the World – Told from the Inside by the Man who ran it.”

Alibek was the son of a Red Army soldier who was wounded seven times in World War II and decorated for bravery in the historical tank battle at Kursk in the summer of 1943. After the war, Bayzak Alibekov rose to the rank of lieutenant colonel of police in Alma-Ata after four years as a rural police officer. The Alibekov family boasted an illustrious lineage. Abramhan Aitiev, Ken Alibek’s grandfather, fought in the Red Army during the Russian Civil War and was one of the leaders of the Communist revolution in Kazakhstan and became the First People’s Commissar of Internal Affairs, responsible for police and security in the 1920s and 1930s. A national hero, he was imprisoned in 1936 and died in a prison hospital under mysterious circumstances. Several streets in Soviet Kazakhstan were named after him.

According to Ken Alibek, the high number of deaths during the Russian Civil War attributed to famine and disease and the brutal epidemic of typhus, which lasted from 1918 to 1921 and claimed millions of lives, made a deep impression on the political and military leadership of the still weak and threatened Soviet state. “Even if they knew nothing about the history of biological warfare, they could recognize that disease had served as a more potent weapon than bullets or artillery shells,” recorded Alibek. Victory in the Russian Civil War did not relieve the pressure on the new Soviet government. “Hostile powers menaced the Bolshevik experiment on every side, and the weakened Soviet state seemed unlikely to survive another onslaught,” wrote Alibek. “Someone realized that one of Russia’s natural resources, its scientific talent, might help the revolution survive.”

Alibek notes that the Soviet biological warfare program began in the 1920s, when Soviet scientists attached crop sprayers to low-flying aircraft and hoped that a contrary wind wouldn’t blow the germs the wrong way. In 1928, the governing Revolutionary Military Council signed a secret decree ordering the transformation of typhus into a battlefield weapon. Three years later the fledgling Soviet government signed an international treaty in Geneva banning the use of poison gas and bacteriological weapons. This did not deter it from working to weaponize bacterial pathogens. The Soviet weapons program was placed under the control of the GPU (the State Political Directorate), one of the predecessors of the KGB. It would continue to be supervised by state security organs until 1950. The Soviet program focused initially on typhus.

The biological weapons program soon expanded to harness other diseases. Alibek writes that by the mid-1930s the Soviet biological warfare program may have even been using inmates from the Soviet gulags (concentration camps) for experimentation. On 22 February 1938, Marshal of the Soviet Union Kliment Voroshilov, a hero of the Russian Civil War and the Joseph Stalin’s Commissar for Defense announced that the Soviet Union planned to uphold the Geneva Protocol outlawing biological weapons, but noted “should our enemies employ such methods against us, then I can tell you that we are ready – quite ready – to employ them against an aggressor on their own soil.” By June 1941 with the Wehrmacht invasion of the Soviet Union, the Russians were working on weaponizing the plague and tularemia. The biological agents explored before World War II underline the Soviet Union’s primary interest in developing battlefield weapons designed to incapacitate enemy troops. In *Biohazard*, Alibek writes the standard measure of success for a biological weapon was referred to as Q50, representing the amount needed to infect 50 percent of all exposed human beings in one square kilometer of territory and the Soviet Union devoted an enormous amount of time and money concentrating aerosols that could reach the Q50 level with minuscule numbers of bacterial cells or viral particles.

Tularemia (*Francisella tularensis*), also called Rabbit Fever, is a debilitating disease, rife among the wild animals and common in the Rocky Mountains, California, Oklahoma, and parts of Eastern Europe and Siberia. It is a hardy organism, capable of surviving for months in decaying animal corpses. The disease is transmitted primarily to humans by ticks, mosquitoes, and wild rabbits, although squirrels, sheep, cats, and dogs had been identified as carriers. While highly infectious, it never spreads directly from one person to another. The disease begins with flu-like symptoms and moves quickly through the body. The victims of Tularemia can be incapacitated for weeks with chills, nausea, headaches, and fever. If left untreated, symptoms usually last two to four weeks, but they can continue for months.

The disease is fatal in 30 percent of untreated cases. Even after successful
antibiotics were developed in the 1940s, tularemia was considered an ideal weapon for the battlefield due to the speed it could overwhelm an opponent’s medical resources, leaving hospitals and physicians unable to cope with a flood of patients in need of constant treatment. If taken immediately, antibiotics could contain the spread of the disease and kill invading bacteria in a matter of days. The later the drugs were administered, the longer a victim would suffer. The availability of antibiotics during World War II was still not widespread and certainly not in Soviet Russia. Particularly acute cases were known to linger for months.

Alibek gleaned his first clues on the event from reading the twenty-five volume History of Soviet Military Medicine in the Great Patriotic War 1941-1945, the Soviets first used tularemia against the Germans advancing in the southern Ukraine toward Stalingrad in the fall of 1942. The ensuing battle for the city is considered one of the most decisive turning points in World War II and 20th century military history. It was at Stalingrad, on the banks of the Volga, the Wehrmacht was decisively defeated by the Red Army, which only a few months earlier had seemed to be on its last legs.

Hitler’s armies invaded in the Soviet Union on 6 June 1941 with three million men, 3,300 armored vehicles, 600,000 motor vehicles, and 625,000 horses. Within the first six months of the war, those armies had destroyed or mauled 300 Red Army divisions. Stalin and his commanders, however, struck back at the gates of Moscow in a stinging offensive, inflicting heavy casualties on the already debilitated Wehrmacht and pushed it back from the Soviet capital. Moscow had been saved, and so had the Soviet Union. The failure of Operation Barbarossa meant that the Wehrmacht no longer had the strength and resources for another offensive on that scale.

By the end of January 1942, the Germans had suffered one million casualties in the east. German armored vehicle losses came to some 4,200 and by the end of March 1942 the 16 panzer divisions of the Ostkrieg, Hitler’s armies in Russia, were down to approximately 140 operational vehicles. The Wehrmacht also lost 100,000 vehicles and 200,000 horses, seriously undermining its mobility and logistics. Hitler, however, refused to take the defensive and sought an offensive solution that provided more than a limited result. With a broad-front attack no longer viable, he turned to the southern sector (caught Stalin & the Red Army on the wrong foot as they were prepared for another offensive toward Moscow). If the Wehrmacht could capture the oilfields in the Caucasus, reasoned Hitler, it could ensure the mobility of the Germans.
The Third Reich's remaining stocks of oil could not sustain another offensive on the scale of Barbarossa, let alone a prolonged war of attrition against the Allied coalition. A German seizure of the southern oilfields would also immobilize Stalin's armies, who relied on that oil as much as the Germans. The Wehrmacht could even strike into the rear of the forces surrounding Moscow or even at the new wartime industry concentrated in the Urals. This was the genesis for Operation Blau (Blue), the German offensive in southern Russia.

On 5 April 1942 Hitler issued Führer Directive No. 41, outlining the German summer offensive. “As soon as the weather and state of the terrain allows, we must seize the initiative again, and through the superiority of German leadership and the German soldier force our will upon the enemy,” wrote

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A Soviet soldier signals to his comrades during the Battle of Stalingrad.