False allegations of the development, production and/or use of biological weapons (BW) were major triggers for the biological arms race that took place after World War I, and in the end led to the invasion in Iraq by the US and their allies.

In this paper, I will deal with claims that the Soviet Red Army used Francisella tularensis as a biological weapon in WW II. Throughout WW II the Germans were very afraid of enemy use of BW following the discovery of the French BW facility Laboratoire de prophylaxie at the Poudrerie nationale du Boucher in Vert le Petit. Every outbreak of infectious diseases or intoxications in the homeland and in occupied regions, especially those deviating from the norm, had been thoroughly investigated. But by the end of WW II, only a few cases of biosabotage had been detected by the Germans.

So when Ken Alibek, alias Kantjan Alibekov, a former director of the Soviet BW organization Biopreparat, alleged after his defection to the West that the Soviet Red Army had used Francisella tularensis as a weapon against German troops in WW II, it was not only scholars of BW history who took notice.

Francisella tularensis, the agent causing tularemia, is one of the most pathogenic bacteria known, and can be easily disseminated. For these reasons, it is considered a candidate BW agent. Experts of a CDC Strategic Planning Workgroup placed F. tularensis in that category of biological agents that “have the greatest potential for adverse public health impact with mass casualties.” In the past, F. tularensis has been studied, produced, weaponized, and stockpiled by Japan, by the US, and by the Soviet Union. France likewise at least considered the use of F. tularensis before WWII. Recently, concerns have once again focused on the possible use of this agent for bioterrorism, and F. tularensis was indeed procured by the Rajneeshee sect while planning their bioterrorist activities in 1984, though in the end, they decided to use Salmonella typhimurium as a sabotage agent instead.

However, there had been no claims that this agent had ever actually been used for hostile purposes.

But in a hearing in 1998, Alibek mentioned: “My own analysis of a tularemia outbreak among German troops in southern Russia in 1942 indicates that this incident was very likely the result of the USSR’s use of biological weapons.”

Historical Note no. 5

Alibek, Tularaemia and The Battle of Stalingrad

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15 One-hundred and fifty-six drafts have been submitted by 93 States Parties. In some cases, States Parties have requested advice on drafts several times during their governmental consultative process. Most of the drafts commented on are still going through the process of parliamentary approval.


18 The follow-up decision expresses the objective “measures … to ensure fulfillment by all States Parties of their Article VII obligations,” (operative paragraph 14) in contrast to the original Action Plan decision language, “measures … to ensure compliance by all States Parties with Article VII” (operative paragraph 19).

19 C-10/DG.4/Rev.1 EC-M-25/DG.1, page 3, paragraph 12.
Alibek repeated and substantiated this claim in his widely read book *Biohazard*. A similar claim was made recently in the Russian newspaper *Pravda*.13

As a cadet in 1973, Alibek was reportedly requested by one of his professors to evaluate a “mysterious outbreak of tularemia on the German-Soviet front shortly before the Battle of Stalingrad in 1942”. He assessed the voluminous *History of Soviet Military Medicine in the Great Patriotic War* 1941–1945 as well as scientific journals from the wartime period, and he came to the conclusion mentioned above.14

But one should have some reservations about Alibek’s claims, not least because he based them neither on personal experience nor on documents conclusively proving the alleged use of *F. tularensis* as BW by the Red Army. Moreover, in the absence of hard facts, Alibek’s claims are not convincingly supported by his arguments, which are summarized below.

Hence, the members of a “Working Group on Civilian Biodefense”, convened by the Center for Civilian Biodefense Studies, Johns Hopkins University School of Medicine, mentioned rather cautiously that “Ken Alibek has suggested that tularemia outbreaks affecting tens of thousands of Soviet and German soldiers on the eastern European front during World War II may have been the result of intentional use”15 [emphasis added]. Other experts pointed out, that Alibek’s “report has not been substantiated”.16 Croddy and Krcalova, in evaluating several reports published in Soviet-Russian journals, concluded that the epidemic was not caused by the deliberate dissemination of *F. tularensis* but rather “was a natural outbreak” caused by “a complete breakdown in public health infrastructure”.17

Up to now, only a few contemporary German sources have been considered18 in order to prove or disprove Alibek’s claim. Therefore, encouraged by Stefan Winkle19 I undertook to assess – in addition to some Russian papers – more contemporary reports published by German medical officers – three of whom were serving in a panzer army at the time in question – and to compare them with the arguments made by Alibek and the author of the *Pravda* paper, respectively:

1. A “mysterious outbreak of tularemia on the German-Soviet front [occurred] shortly before the Battle of Stalingrad in 1942”.20

But: The outbreak of 1942 was not “mysterious” at all, since it was not the first epidemic of tularemia in the land-bridge between the Black Sea and the Caspian Sea. Since 192621 several large outbreaks had been reported;22 in 1938 there was an epidemic causing several thousand cases of tularemia,23 and another large outbreak occurred during the winter of 1941–42.24

Tularemia was in fact endemic in that region.25 For this reason, an effective protective system had been organized by the Soviet administration before the German occupation. An important element of the protective system involved wiping out mice and other murine rodents (the main transmitters of the disease – and of plague, which was also endemic in that area) by the use of so-called “deratisators”.26 In January 1941, recommendations had also been issued by the High Command of the Soviet Southwest army in order to prevent tularemia.27

2. Alibek claims that a large outbreak of tularemia suddenly occurred in the Volga region first among German panzer troops late in the summer of 1942. Within a week of the initial German outbreak, thousands of Russian soldiers and civilians living in the Volga region also came down with tularemia.28 Likewise, according to the article in *Pravda* “[t]he use of infected rats against the Nazi army had an inverse effect too: the disease came over the front line, and infected a lot of Soviet soldiers”.

But: The outbreak did not affect German troops first. When German troops approached the region some soldiers developed tularemia “subsequent to infections among the Russian civilian population”.29 Gerhard Rose, Chief Consultant in Tropical Medicine to the German Air Force, pointed out in an interrogation “that the Germans were greatly surprised to find extensive epidemics of tularemia in Russia among the civilian population in the Donetz Basin and along the Black Sea”.30 Besides, the outbreaks of tularemia did not start in the summer but in the winter: the 1941–42 outbreak lasted from October until June, with a peak in January (14,000 cases)31, and the 1942–43 epidemic started in November and lasted until the end of February.32

3. According to Alibek, the number of cases of tularemia rose from a normal figure of about 10,000 in 1941 to more than 100,000 in 1942, whereas the incidence of the disease returned to 10,000 in 1943.

But this assertion is to be doubted, too. The peak of the 1942–43 epidemic was not reached in 1942 but in mid-January 1943.33

Furthermore, according to the leading Soviet epidemiologist Victor Zhdanov, about 100,000 cases per annum had been reported throughout the 1940s and not only in that particular year.34 And in any case, independently of the difference in these figures, the following numbers make it clear how marginal the impact of the epidemic actually was on the capability of the German troops: While Gerhard Rose recalled that the cases of tularemia among the Russian people during the war “numbered hundreds of thousands”35, only 130 German soldiers suffered from tularemia in 1941–42,36 and during the period 1939–43 altogether 1771 cases of tularemia had been diagnosed in the German field forces (plus an additional two in the replacement forces). Moreover, these figures include cases diagnosed among troops serving in Norway. Hence, the claim made in the *Pravda* article that “about 50 percent of German prisoners who were taken captive after the battle of Stalingrad, were suffering from classic symptoms of tularemia”37 is simply not credible.

From a German perspective, tularemia was indeed a war disease, but of much less importance than other diseases.38 In fact, in a contemporary monograph on war diseases, tularemia was not even mentioned at all.39

4. Alibek mentioned that most of the journals he studied in the course of his evaluation “reported this as a naturally occurring epidemic”. Nevertheless, he came to a different conclusion41.

But like Winkle42 and like Croddy and Krcalova43 I am convinced that the journals studied by Alibek drew the correct conclusions. One of the papers which should have been available to Alibek during his studies in 1973 was published
by leading Soviet expert I.I. Rogozin 44. Rogozin observed that there had been a massive multiplication of infected rodents. He concluded that “a decisive source of the infection [with F. tularensis] revealed the inhalation of dust when contaminated straw was used as mattresses”. This assessment is to be taken very seriously since Rogozin was head of the anti-epidemic department of the People’s Health Commissariat (i.e. the Ministry of Health) who himself studied the outbreak in 1942 on the spot 45. Correspondingly, according to a Soviet monograph, since the fighting persisted in the region throughout the normal period of the grain harvest, the crops were left standing in the fields, providing ample food for the murine rodents, and causing an intensive multiplication in their numbers. That supported their infection with Francisella tularensis. In consequence, the infected animals contaminated large areas of the regions of Rostov, Stalingrad and Woroschilowgrad and caused outbreaks of tularemia in that area 46.

These conclusions totally correspond with assessments drawn and published during WW II by German medical officers in at least eight articles. Each of these papers describe more or less at length that the outbreak was caused by field mice, forest mice, shrews and other rodents, which multiplied more or less at length that the outbreak was caused by field mice, forest mice, shrews and other rodents, which multiplied rapidly because crops remained unharvested and the grass uncut because of the war, thus providing a large source of food for the rodents 47.

Another reason for the enormous multiplication of the rodents – according to both German and Russian experts – was that the systems established to prevent plague and tularemia had totally collapsed as a consequence of the war 48, 49.

The animals – a high percentage of which were infected with Francisella tularensis 40 – excreted the bacteria with their faeces so that the bacteria were disseminated with the dust from the fields and/or with contaminated bread and other food 51. The majority of soldiers treated in a military hospital specializing in tularemia had been infected orally by contaminated bread and other food 52. Gerhard Rose recalled that tularemia “was transmitted by direct contact through food, or by mice and rats” 53. Occasionally the bacteria had taken up quarters in contaminated villages or, better still, to bypass the villages altogether. Contaminated hay or straw was used as mattresses”. This assessment is to be taken very seriously since Rogozin was head of the anti-epidemic department of the People’s Health Commissariat (i.e. the Ministry of Health) who himself studied the outbreak in 1942 on the spot 45. Correspondingly, according to a Soviet monograph, since the fighting persisted in the region throughout the normal period of the grain harvest, the crops were left standing in the fields, providing ample food for the murine rodents, and causing an intensive multiplication in their numbers. That supported their infection with Francisella tularensis. In consequence, the infected animals contaminated large areas of the regions of Rostov, Stalingrad and Woroschilowgrad and caused outbreaks of tularemia in that area 46.

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Zeiss was accused of having provided German facilities with *F. tularensis* “for military purposes” (note 71). 48 of his Russian collaborators were imprisoned. About ten years later leading Soviet microbiologists have been accused and imprisoned again, some of whom even executed, because they had allegedly performed biosabotage and spread, inter alia, tularemia between 1939-41 (Merkulov, note 72).

But Kliewe did not mention any alleged or actual use of bacteria as weapons by Soviet troops or saboteurs73. Apart from Alibek’s claims, there have been no reports on the actual use of *F. tularensis* as a warfare agent or in bioterrorist attacks. There have been also no other reports regarding an alleged use of BW by the Red Army which was obviously not prepared to use such weapons during WW II for several reasons74. Neither German medical officers nor Soviet authors considered in their publications the possibility of a hostile spread of tularemia agents as a possible source for the infections observed. Likewise, the sanitary officers did not discuss such a possibility in private contacts with Eduard Boecker of the Robert Koch-Institute, Berlin, who was involved in the diagnostics of tularemia and other diseases during the war75. After the war Kliewe mentioned the “alleged possibility of the Russians using bacterial clouds of plague and tularemia”76 but testified that “although there seems to have been a belief that the Russians were all ready to use BW there is complete absence of any documentary proof of this, despite the fact that the Germans overran two of the alleged BW stations”77. Similarly, Walter Hirsch, head of the German BW committee *Arbeitsgemeinschaft Blitzableiter* reported that “[o]nly the employment by the [BW] agents [presumably studied by the Russians] in the hinterland, mainly in Warsaw, and few other large places in the zone of communications such as Kiew and Minsk could be ascertained by the Germans”78.

8. According to Alibek, “such large numbers” of German panzer troops suffered from tularemia that the Nazi campaign in southern Russia ground to a temporary halt, thus suggesting that the German defeat at Stalingrad was at least partially caused by that outbreak79.

The 4th Panzer Army did indeed interrupt their advance towards Stalingrad, but already in July 1942 – five months before the first cases of tularemia occurred in November of that year 80. The advance of the troops towards Stalingrad was not delayed by the disease, but by Hitler. On 13 July 1942 he gave orders to change the direction of their advance southward to support the 1st Panzer Army, that had orders to cross river Don south of Stalingrad near Rostov, and to approach the Caucasus Mountains81. This decision was revised only 18 days later when Hitler ordered instead that the 4th Panzer Army were to attack Stalingrad82.

According to the well-known military expert Basil Henry Liddell Hart, Hitler’s order of 13 July was a major cause for the German defeat in the battle of Stalingrad83. The *Führer* was responsible for the disaster, and not *Francisella tularensis* (independent of whether the disease was weaponized and spread by the Red Army or not).

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I thank Professor Dr.med. Stefan Winkle for numerous suggestions and critical review of this article; Oberstarzt Dr.med. Ernst-Juergen Finke for the German translation of Rogozin’s article and of some paragraphs of Smirnov et al. as well as for the provision of several documents and helpful comments; Dr.sc.nat. Ernst Buder for the German translation of Belousowa’s paper.

**Notes**

4. ibid.
7. Dennis et al., op.cit.
As reported in *Bulletin 68* (June 2005), the Meeting of Experts of the States Parties of the Biological and Toxin Weapons Convention (BWC) on 13 to 24 June 2005 had made significant progress in considering the single topic identified for 2005:

v. The content, promulgation, and adoption of codes of conduct for scientists;

by producing a report (BWC/MSP/2005/MX/3 dated 5 August 2005 – this and other official BWC documentation is available at http://www.opbw.org). Attached to the report as Annex I was a paper prepared by the Chairman listing the considerations, lessons, perspectives, recommendations, conclusions, and proposals drawn from the presentations, statements, working papers and interventions made by delegations on the topics under discussion at the Meeting. The report, as in the report from MX/2004 a year earlier, stated that '[t]he Meeting of Experts noted that it was the Chairman’s view that the paper could assist delegations in their preparations for the Meeting of States Parties in December 2005 and in its consideration of how best to “discuss, and promote common understanding and effective action on” the topic in accordance with the decision of the Fifth Review Conference.’

This provided the States Parties with an excellent starting point from which to develop language to meet the requirement of the mandate for the Meeting of States Parties in December 2005 to ‘discuss, and promote common understandings and effective action’.

### Preparations for the Meeting of States Parties, 2005

The Final Report (BWC/MSP/2004/MX/3 dated 5 August 2005) of the Meeting of Experts comprised a report of 5 pages together with Annex I, a 39 page listing of the considerations, lessons, perspectives, recommendations, conclusions, and proposals drawn from the presentations, statements, working papers and interventions made by delegations on the topic under discussion at the Meeting; and Annex II, a 6 page listing of the documents of the Meeting of Experts.

The Chairman, Ambassador John Freeman of the UK, wrote to the States Parties on 20 September 2004 to say that he intended to continue to follow precedent established in previous years of this process and will work with the regional groups and individual States Parties closely and transparently. To that end he attached a five page synthesis of the Annex to the report of the Meeting of Experts encompassing the considerations, lessons, perspectives, recommendations, conclusions and proposals drawn from the presentations, statements, working papers and interventions from that...