

## Ecological and epidemiological study of *Francisella tularensis* in Gusar and Khachmaz regions in the Northern part of Azerbaijan

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### Introduction:

*Francisella tularensis* is a highly virulent bacterium for humans and rodents. In some countries, endemic regions with frequent outbreaks are bordering with the regions with no history of tularemia. In Azerbaijan, there are natural foci of this infection. The main goal of this study is to define the prevalence and distribution of *F. tularensis* pathogen in Khachmaz and Gusar regions of Azerbaijan.

### Methods:

In total, 13 trips were made to Khachmaz region for 6 months (April-September) during spring, summer and autumn where arthropod specimens (ticks) were collected. Each of these monthly (2-3 times a month) trips lasted 9 days. Collected ticks were identified through microscopy, and they were grouped and tested by RT-PCR.

### Result:

8216 ticks that were collected are distributed as follows: *Dermacentormarginatus* (3650) 44 %, *Rhipicephalussanguineus* (2932) 35%, *Rhipicephalusturanicus* (1421)17%, *Ixodesricinus* (118) 1.5%, *Hyalomma plumbeum* (52) 0.6%, *Hyalomma asiaticum* (41)0.4 %, *Haemaphysalis punctata* (1) 0.01%. 1269 tick pool (8216 ticks) samples were tested by RT-PCR. 12 samples were positive for tularemia. The following ticks were identified in the given samples: *Dermacentormarginatus*, *Hyalomma plumbeum*, *Rhipicephalusturanicus*, *Rhipicephalussanguineus*.

### Conclusion:

Results of the study conducted in the Northern part of Azerbaijan show that the prevalence of tularemia was high. Although there was no confirmed human case of tularemia in this region for the last ten years. These results will further contribute to Public Health and Veterinary services as part of "One Health" program.

**Keywords:** arthropod specimens, bacterium, results, tick, virulent bacterium

### Biography

Rita Ismayilova has completed PhD at the age of 30 years from Azerbaijan Medical University and postdoctoral studies from Republican Anti-plague Station School of Epidemiology. I am the Deputy director of Republican Anti-plague Station. I have published more than 40 papers in reputed journals and has been member of EIDSS administration committee.

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