

Summary of the MSc. thesis No.17888 , Faculty of Veterinary Medicine, Urmia University.

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Author: Mohammad Masoudi

Title: Molecular identification of *E. coli* in ticks isolated from domestic animals in West Azerbaijan province

Summary:

E. coli, a gram-negative bacterium, is capable of causing a wide range of infections. Normally found in the healthy intestinal tract of humans and warm-blooded animals, this rod-shaped bacterium belongs to the Enterobacteriaceae family. It can thrive in both aerobic and anaerobic environments. Transmission of *Escherichia coli* occurs through contaminated water or food, as well as through contact with animals or individuals, leading to the development of diarrhea. Additionally, certain strains of *Escherichia coli* can result in urinary tract infections, respiratory diseases, pneumonia, and other illnesses. *Escherichia coli* encompasses a diverse group of bacteria that are classified by pathotype. Among these pathotypes, six are associated with diarrhea and collectively referred to as *Escherichia coli* diarrheal bacteria. In this study, to investigate *E. coli* in hard ticks, 350 hard ticks were classified and identified based on diagnostic keys. In total, 350 hard ticks, including 173 *Hyalomma* species and 177 *Rhipicephalus* species, were identified. The samples were divided into 70 pools according to the tick genus, and DNA was extracted from the ticks. Pathogens transmitted by ticks were diagnosed using PCR, and samples were examined for the presence of *E. coli* bacteria. The results showed that 6 (n=34; 25%; 95% CI: 12%-44.90%) *Hyalomma* ticks, 7 (n=36; 19.44%; 95% CI: 9.75%-35.02%) *Rhipicephalus* ticks were identified as carriers of these pathogens. Indicating that these pathogens are transmitted by various species of hard ticks. Ticks and tick-borne diseases are a significant public health concern worldwide.

Key word: *E. coli*, ticks, domestic animals, West Azerbaijan