Summary of the Ph.D thesis No., **12455 . parasitology,** Faculty of Veterinary Medicine, Urmia University.

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Title: Infection of Hyalomma spp with *Toxoplasma gondii* and *neospora caninum* in Urmia city.

Abstract:

Toxoplasma gondii and *Neospora caninum* are protozoan parasites belonging to the phylum Apicomplexa that are responsible for systemic diseases in many warm-blooded animal species. Toxoplasmosis has a global distribution and probably one-third of the world's human population is infected with this pathogen. Domestic and wild cats are the final hosts and a wide range of warm-blooded animals, birds, rodents and humans are intermediate hosts of this pathogen. As a result, oral transmission cannot explain the common occurrence of this parasite in a variety of hosts, as well as the ways of transmission to domestic hosts. Neospora caninum was classified as *Toxoplasma gondii* until 1988. This disease is widespread worldwide and causes abortion in cows. The most common intermediate hosts of *Neospora caninum* include cattle, sheep, goats, horses, and deer. Ticks are known to be carriers of many microorganisms, including viruses, bacteria, and protozoa. Recent studies have identified *Toxoplasma gondii* in different tick species in many countries. In this study, we investigated the prevalence of *Toxoplasma gondii* B1 gene using the Nested-PCR technique and the Nc-5 gene of *Neospora caninum* using the Conventional-PCR technique from ticks collected in different regions of Urmia. We analyzed the DNA of 350 ticks (including 176 Hyalomma spp, 115 rhipicephalus spp, 46 Haemaphysalis spp, and 29 Ixodes spp belonging to 200 sheep, 50 goats, and 100 cows), and the B1 gene of *Toxoplasma gondii* was detected in 3 samples of these ticks (one sample of Ixodes and two samples of Haemaphysalis). Positive results were confirmed using sequencing. This is the first report of detection of *Toxoplasma gondii* in ticks in Iran. Our results provide important information that is necessary to understand the transmission of toxoplasmosis. In the evaluation of *hyaloma* ticks, no solitary *Neospora caninum* was observed.

Key words: *Toxoplasma gondii*, *Neospora caninum*, tick, Urmia