

Prevalence and phylogenetic analysis of gastrointestinal helminths (Nematoda: Trichostrongylidae) in ruminant livestock of northwest Iran

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Abstract: Trichostrongylidae family is considered as a group of gastrointestinal nematodes of ruminants with widespread distribution in the world. The parasites are the major causes of productivity loss in many countries including Iran. This study was carried out to determine the distribution of abomasal Trichostrongylidae among livestock of Qazvin, Iran. Totally, 160 abomasum samples including 83 from sheep, 72 from cattle and 5 from goats were collected from slaughterhouses throughout the Qazvin Province. The ribosomal DNA internal transcribed spacer 2 (ITS2) region was amplified using PCR followed by sequencing 13 different isolates. Phylogenetic analysis of the identified sequences was performed using MEGA 7 software. The prevalence rate of the nematodes was 19.4% among the specimens. Also, two species including *Marshallagia marshalli* and *Teladorsagia circumcincta* were identified among the isolates with *M. marshalli* at higher frequency. No *Trichostrongylus* spp. was detected in the region. Since livestock plays a major role in ecosystem balance and as some species of nematodes have a zoonotic nature, it is necessary to proceed with more comprehensive epidemiologic studies to clarify the infection rate among the human population living in the region.

Keywords: Iran, ITS2-rDNA region, Phylogenetic analysis, Qazvin, Trichostrongylidae.