Summary of the Ph.D thesis No Faculty of Veterinary Medicine, Urmia University.
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Title of thesis: Investigation of genetic and morphological variation of *Oestrus ovis* and *Coenurus cerebralis* in sheep and goat in different climatic regions of Iran

Summary:
There are two important parasites in the sheep's head, one is a cestode (*Coenurus cerebralis*) and the other is a baby fly (*Oestrus ovis*), and considering that we worked on this organ, these two parasites were investigated. *Coenurus cerebralis* consists of several protoscolex and has a transparent wall. Domestic and wild dogs are the definitive hosts, while a wide range of herbivores are intermediate hosts. As a result of the invasion of the baby fly *Oestrus ovis* into the nose, strosis occurs. Nasal discharge and sneezing are the most common clinical signs in infected animals. The larvae seriously affect the health of the host and cause a decrease in milk, meat and wool production. The aim of this study is to investigate the genetic and morphological diversity of *Oestrus ovis* and *Coenurus cerebralis* using the sequence of ND1 and CO1 genes in different regions of Iran. Samples were collected from different climatic regions of Iran and after DNA extraction, PCR test for ND1 and CO1 gene was performed using specific primers. After that, DNA sequencing was performed on the PCR products for all examined samples. The sequencing results of senurus isolates showed that there is no difference in the NADH gene among Iranian isolates and it is very similar to the sequences isolated from Turkey, Italy, Greece, Egypt and Australia. Based on molecular alignment and phylogenetic analysis, the close relationship between Iranian isolates from the same hosts and turkey, and China is related to the same geographical conditions and high rate of trade between countries. Also, the sequencing results of Strauss ovis isolates from the brain of sheep in this study showed that there is a difference in The COI gene is not present among the isolates and is very similar to the sequences of Strauss ovis isolates from Iraq, Bosnia, Herzegovina and Croatia.
Keywords: *Coenurus cerebralis*, *Oestrus ovis*, molecular identification, phylogenetic analysis, Iran, sheep.