

FIRST DOCUMENTATION OF *NEMATODIRUS FILICOLLIS* FROM SHEEP IN IRAQ

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ABSTRACT : The present study was conducted to determine the parasitic infection with intestinal nematode species *Nematodirus* spp. of sheep slaughtered in different areas from the slaughterhouses of Basrah, Iraq. Three hundred sixty sheep were examined during 2019- 2020. The nematodes were isolated from small intestine and kept into alcohol / glycerin for further diagnosis. It is worth commending that the diagnosis of *Nematodirus* species was confirmed through the nomenclatural acts and registered in the Iraqi Natural History Research Center when a deposit number for Nematodes (sheep) *Nematodirus filicollis* (Rudolphi, 1805) F: Anoplocephalidae: (INHM. 2020 Nem. 1.2). When the samples of nematodes were deposited in the helminth collection at the Museum of the University of Baghdad, this repository is considered as a confirmative for diagnosis and morphological analysis. Mixed infection with other parasites were reported with *Moniezia* spp., and significant increases were reported with *Cystricus tenuicollis* that considered importantly associated with *Nematodirus* infestation among the examined sheep. For our knowledge, this study is the first Iraqi report associated with confirmation of adult *Nematodirus filicollis* parasite in sheep.

Key words : *Cystricus tenuicollis*, *N. spathiger*, Lucida camera, Basrah province.

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INTRODUCTION

Nematodirus spp. (Nematoda: Anoplocephalidae) considers an important pathogenic parasite in small intestines of domesticated and ruminants animals throughout the world taxonomy (Taylor, 2016). *Nematodirus* nematodes are composed of more than 45 species, many of which are distributed in ruminants, and their distribution are generally global throughout the world (Nadler *et al*, 2000 and Oliver *et al*, 2014). *Nematodirus filicollis* was recognized as a major parasites of lambs (Pomroy, 1997). The clinical signs of disease in lambs with *Nematodirus* infections include the loss of appetite, sometimes failure to gain weight or weight loss, profuse diarrhea, and dehydration (Vlassoff and McKenna, 1994). The outbreak of disease commonly occurs suddenly. Lamb with subclinical parasitism usually results in a significant reduction in carcass value and a persistent decrease in milk production and wool growth (Miller *et al*, 2012). In previous studies, parasites are considered

to be a major problem in ruminants by causing disease, death and production loss (Islam *et al*, 2017).

Nematodirus species having a direct life cycle and comprises a stage within the host and a stage outside the host. Each worm in the host has been ingested from larvae contaminated pasture. The females reside in the small intestines and lay eggs which are passed out in the feces of the host (Familton and McAnulty, 1997). Especially in the case of *Nematodirus* spp., which may expend many months as an egg on pasture (Vlassoff *et al*, 2001). Taxonomic identification of *Trichostrongyloid* nematode is usually the species being identified by the characteristics of each males and females which usually not identifiable. The six species of *Nematodirus* have been previously identified by characteristics of the limb spicule and group bursa (Becklund and Walker, 1967). Although, the morphological similarity of eggs, there was no absolute correlation between worm burden and egg output (Demeler *et al*, 2010). Infections by adult worms can be