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### Diagnostic study of internal parasites in camels of Al- diwaniya government

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#### Abstract

This study was carried out to detect the prevalence of intestinal parasites of camels in Diwanyiah city in 2016 by faecal examination. . A total of 110 faecal samples were examined, among them,95 camels were found infected with intestinal parasites by one or more species with percentage reach to 86.36% , *Fasciola spp* was maximum (31%), followed by *Eimeria spp* (26%) ,*Cryptosporidium spp* (17.89%) ,*Nematodirus spp*(7.36%),*Trichostrongylus spp* (6.31%) ,*Moneizia spp*(5.26%) and *Trichuris spp* (3.1%).Due to the lack of available studies on infected the camales by internal parasites in Al- diwaniya government This study was conducted for the purpose of diagnosis of the most important internal parasites in camales.

Key wored(intestinal parasites, faecal samples,camales, Al- diwaniya government )

#### الخلاصة

أجريت هذه الدراسة لغرض تشخيص أهم الطفيليات الداخلية في الجمال في محافظة ألبوانيه للعام 2016 عن طريق فحص البراز من مجموع 110 عينة براز فحصت بلغ عدد العينات المصابة 95 بنوع واحد أو أكثر من الطفيليات الداخلية بنسبة مئوية بلغت 86.36% . سجل طفيلي *Fasciola spp* أعلى نسبة إصابة بلغت (31%) تلتها *Eimeria spp* بنسبة إصابة (26%) , أما طفيلي *Cryptosporidium spp* سجل نسبة إصابة بلغت (17.89%)

(89) وبلغت نسبة الإصابة بطفيلي *Nematodirus spp* (7.36%) ثم طفيلي *Trichostrongylus spp* بنسبة إصابة بلغت (6.31%) وسجل طفيلي *Moneizia spp* نسبة إصابة بلغت (5.26%) واخيرا سجل طفيلي *Trichuris spp* اقل نسبة إصابة بلغت (3.1%). نظرا لقلّة الدراسات المتوفرة حول إصابة الجمال بالطفيليات الداخلية في محافظة البوانية اجريت هذه الدراسة من اجل تشخيص اهم الطفيليات الداخلية في الجمال.

#### Introduction:

The camel (*Camelus dromedarius*) is an important livestock species with multiple purpose uses animal as important source of meat, milk and riding and transport purpose in addition to their dung is used for fires .

One of the major obstacles in development of animal health and growth are the intestinal parasites. Many factors play an important role in

the proliferation of parasites and their diseases, like variable geo-climatic conditions, constant exposure to parasitic infection and lack of farmers's knowledge of regarding gastrointestinal (GI) diseases (1). In addition, the nutritional status of the animals is adversely affect with GI parasites as well as the resistance against other diseases (2). Internal

parasites in camels are considered to be the most important causes of economic losses. These parasites not only reduce the productivity and performance of camels but also predispose them to other infections. Many source of infection in camels by helminth such as ingestion larvae with drinking water or during grazing on infected pastures, resulting in fever, colic, emaciation along with growth disorders, and diarrhea (3).

Extensive study on gastrointestinal parasites in camels are needed due to the economic importance of camels contribution to meat production in the study area [4]. It is important to mention that camel, among domestic animals, has the ability to tolerate a lot of parasitic infections of economic importance [5, 6], and the infected with internal parasites are known to contribute to a great loss of production generally in acute cases, [7,8,9]. Some of gastrointestinal parasites also have zoonotic important to those who work closely with the camels [10,11]. Therefore, this study was carried out to estimate the prevalence and identify the genera of internal parasites of camels in Al- diwaniya government.

#### **Materials and methods:**

110 faecale samples of camels collected in the province of Diwaniya for the period from February 2015 -

June 2015. About 20 -30grams of faeces were collected directly from the rectum of each camel. Each sample was kept in clean containers and sealed and then brought to the laboratory for the purpose of conducting the necessary laboratory tests:

1-Direct smear : To investigate Protozoa oocyst and other helminthes(12).

2-Sedimentation method:To investigate the eggs of Trematods and some Nematodes.

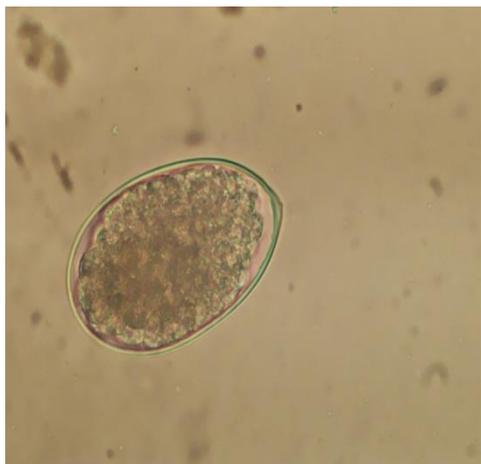
3-Flotation method (Scheathers solution) ;To investigate the eggs of Nematodes and Oocyst of Prptzoa (13).

4-Acid fast stain: To investigate *Cryptosporidium* spp(14).

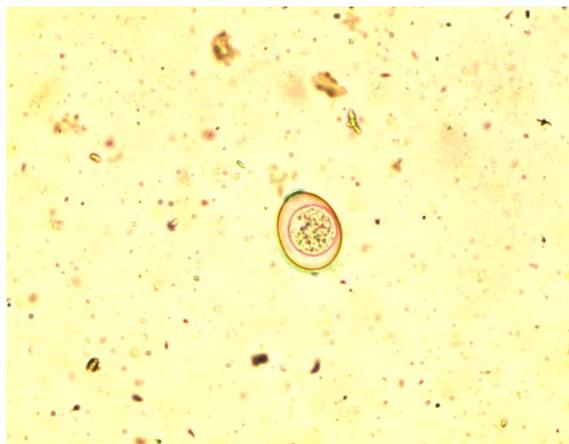
#### **Results:**

In the present study, 110 faecal samples of camels were examined 95 of them are infected by internal parasite with total percentage reach to 86.36%.

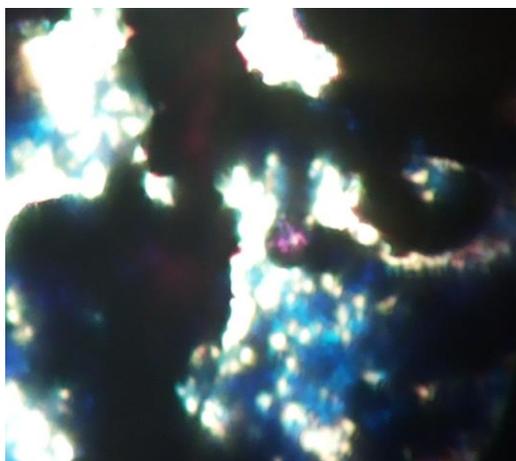
The study diagnosed many helminthes eggs and protozoal oocysts. *Fasciola* spp were maximum species-wise prevalence of GI parasites indicated (31%), followed by *Eimeria* spp (26%) ,*Cryptosporidium* spp (17.89%) ,*Nematodirus* spp (7.36%) ,*Trichostrongylus* spp (6.31%) ,*Moneizia* spp(5.26%) and *Trichuris* spp (3.1%).table (1) figue (1),(2),(3) ,(4),(5),6),(7).



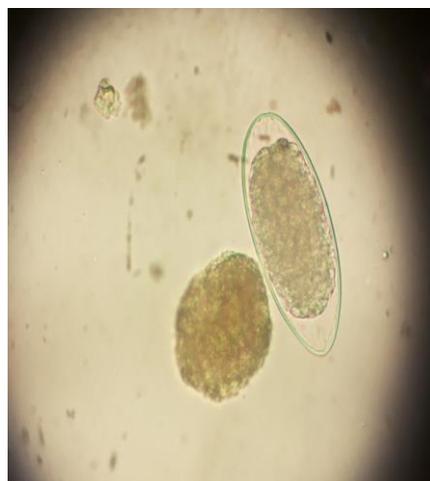
*Figur (1) Fasciola spp X40*



*Figure (2) Eimeria spp X100*



*Figure(3) Cryptosporidium spp X100*



*Figure (4) Nematodirus spp X40*



Figure (6) *Trichostrongylus* spp X10



Figure (7) *Monezia* spp X40

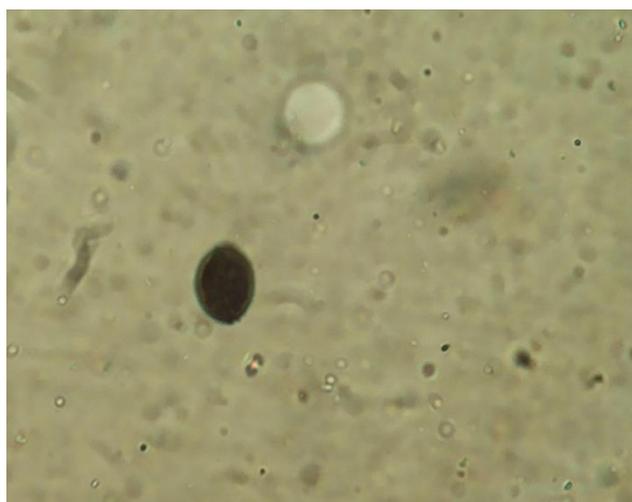


Figure (7) *Trichuris* spp X40

Table(1):The number of infected samples and percentage of infectio

Parasites	Number of samples	Percentage %
<i>Fasciola spp</i>	30	31%
<i>Eimeria spp</i>	25	26%
<i>Cryptosporidium spp</i>	17	17.89%
<i>Nematodirus spp</i>	7	7.36%
<i>Trichostrongylus spp</i>	6	6.31%
<i>Moneizia spp</i>	5	5.26%
<i>Trichuris spp</i>	3	3.1%

### Discussion:

In this study faecal samples were obtained from camel in the province of Diwaniyah for the period from February 2015 - June 2015 .

The total percentage of infection in different type of intestinal parasites reach to 95% ,the result disagree with prevalence rate in Iran which were reported the percentage of infection 52%( 10) ,while In Pakistan, gastro-intestinal helminthes play a major role in influencing the state of animals [15], which leads to deep pathogenetic implications. 57% of the examined animals were infected, Studies of camels [16] were conducted in the northeast of Iran (province of Arbab), where there is a small population of these animals. 25 samples were examined, representing 25% of the population in different age groups. Helminthes eggs were found in 13 (52%) of them ,the differentiation in results may be due to the number of camels examined and the climate ,time and the environmental condition .

The present study showed infected the animals by *Fasciola spp* with percentage reach to 31%,this result disagree with (17)in Iran which reported 5.3% ,(18)in Saudi Arabia which reported 15%,(19)in Saudi Arabia which reported 4.22% and (20)in Jordan which reported 2%. And the result agree with (21)in Iran which reported 34.6%., Low and high

prevalence of result from different parts of world could be due to the physiological status, age, animal spp, climatic conditions and the existing Manage-mental practices at farm, and the reflection of global climate change that has been experienced over the last several decades, which has altered distributions of organisms worldwide. Also the might be due to the variation in the sampling area or the number of samples studied, otherwise the trend was similar to the above workers.

Many conditions or reasons that may explain the variations among the results might be due to period and place of study, the difference in size of collected samples, techniques of sample collection, selection of samples, environmental factors, breed of the animals etc.

The finding of the present study are observed of *Eimeria spp* with percentage reach to 26%,this result agree with (9)in Bahrn which reported 20% The spread of coccidiosis among camels with many reported during the winter season was most probably associated with a very wet climate..

We diagnosis also in this study infected the animals with *Cryptosporidium spp* with percentage reach to 17.89% ,this result agree with (22)in Egypt which recorded 19.3% and (23)in Yazd Province ,Iran which

reported the prevalence 20.33% ,and disagree with (24)in Iran which reported 4.7% also (25) observed 4.7%in Kerman ,Iran .

The differentiation in results may due to the number of camels examined , the time and the environmental condition .

Another nematodes diagnosis in this study *Nematodirus spp* with percentage reach to 7.36% ,this result agree with (26)which recorded 5.8% of GI helminthes of camels in Mashhad abattoir, Iran and (27)which recorded 10.71% of Gastrointestinal in migratory Camel inNagpur .

While this result disagree with(28)Which recorded 52% in your study. Common gastrointestinal parasites of indigenous camels (*Camelus dromedarius*) with free-ranging system (traditional husbandry management) in central deserts of Iran. The difference in sampling period; awareness of the people about the parasites and improvement of veterinary service may play a role for this variation .

The result of this study also showed that infected the animals by *Trichostrongylus spp*

With percentage reach to 6.31% this result disagree with (26)which recored 24% in a study on gastrointestinal helminths of camels in Mashhad abattoir, Iran another study in Iran (28) which record 65%. The

differentiation in results may due to the number of camels examined , the time and the environmental condition .

the present study are observed of *Moneizia spp* with percentage reach to 5.26% this result agree with (12)which recored 9.4% in Iran and disagree with (9)in Al-Bahrain which recorded 20%and (10) in Iran which recorded 28% .The present study showed infected the animals by *Trichuris spp* with percentage reach to 3.1% this result disagree with(9)in Al-Bahrain

which recorded 10.6% and in Iran (10) recorded32% also another study in Iran (29) which recorded percentage reach to 87.5% .

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