DISTRIBUTION OF HADJELIA TRUNCATA CREPLIN, 1825
(HABRONEMATIDAE, SPIRURIDEA) AMONG MEMBERS OF THE
AVIAN FAMILY COLUMBIDAE IN AL-DIWANIYA PROVINCE,
CENTRAL IRAQ

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ABSTRACT

A total of 28 birds were examined to investigate about the distribution of the nematode Hadjelia truncata among some members of the avian family Columbidae in Al-Diwaniya Province, Central Iraq. The percentages of the infection rate with this nematode were 27.27, 37.5, 14.28 and 0 in Columba livia, C. palumbis, Streptopelia decaocto, and S. turtur respectively. Reporting Hadjelia truncata from Streptopelia decaocto constitutes a new host record.

INTRODUCTION

The nematode Hadjelia truncata Creplin, 1825 (Habronematidae, Spiruridea) is a parasite of gizzard of wide range of birds from different families and orders, as well as vast geographical distribution throughout Africa, Asia, and Europe (Chabaud and Campana, 1950; Yamaguti, 1961; Yorke and Maplestone, 1962; Tadros and Iskander, 1975; Esmaeil, 2004; Junker and Boomker, 2007; Razmi et al., 2007; Junker et al., 2008; Al-Moussawi, 2008; Al-Saffar, 2009). In Iraq, it was reported from the rock dove, Columba livia by Al-Attar and Abdul-Aziz (1985) and Al-Saffar (2009), then from the Blue-cheeked bee-eater, Merops superciliosus persicus (Coraciiformes) by Al-Moussawi (2008).

Since the avian family Columbidae is well established in Iraq with 8 species belonging to 3 genera and widely distributed throughout the country except for the recently recorded Namaqua dove, Oena capensis which has rather a limited but steadily growing range of dispersion in the far most southern borders of Iraq with Kuwait (Allouse, 1961; Salim et al., 2006), the present work is designed to investigate about the distribution of the nematode Hadjelia truncata among some members of the avian family Columbidae in Al-Diwaniya Province, Central Iraq, in which seven columbid species were recorded.

MATERIALS AND METHODS

A total of 28 columbid birds representing 11 rock doves, Columba livia; 8 wood pigeons, C. palumbis; 7 collared dove, Streptopelia decaocto; and 2 turtle doves, S. turtur were captured alive or shot around Al-Diwaniya City at the period between July 2008 and November 2009. The birds were immediately dissected and their alimentary tracts were removed and searched carefully for the parasites. The recovered Hadjelia truncata specimens were washed and cleaned with 0.9% saline and then immersed in lactophenol for clearing. The other parasites were kept for future study.
Distribution of Hadjelia Truncata Creplin

RESULTS AND DISCUSSION

The nematode Hadjelia truncata (figs. 1-3) is easily recognized by its mouth has two large trilobed lips with two small rather triangular crests on the external surface (Yorke and Maplestone, 1962), and the caudal region of male is characteristic of spirurid-type with two unequal spicules (Razmi et al., 2007).

Table 1 summarizes the results on the examined birds, infection rate, parasite burden and range. This would show that the percentage of the infection rate with this nematode are 27.27, 37.5, 14.28 and 0 in the hosts C. livia, C. palumbis, S. decaocto, and S. turtur respectively. These results differs drastically from that reported by Al-saffar (2009) who mentioned infection rate of 1.3% in C. livia collected at Baghdad City. This is may be related to the smaller sample size of the present study.

Reporting Hadjelia truncata from Streptopelia decaocto in this study considered to be first time for the parasite to be reported from this host, therefore it constitutes a new host record.

Table 1: Bird species, No. examined, No. infected, % infection, parasite burden and range.

<table>
<thead>
<tr>
<th>Bird species</th>
<th>No. examined</th>
<th>No. infected</th>
<th>% infection</th>
<th>Parasite burden (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columba livia</td>
<td>11</td>
<td>3</td>
<td>27.27</td>
<td>6(5-7)</td>
</tr>
<tr>
<td>Columba palumbis</td>
<td>8</td>
<td>3</td>
<td>37.5</td>
<td>3</td>
</tr>
<tr>
<td>Streptopelia decaocto</td>
<td>7</td>
<td>1</td>
<td>14.28</td>
<td>2</td>
</tr>
<tr>
<td>Streptopelia turtur</td>
<td>2</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Surprisingly, Al-Shaibany (2008) who examined the alimentary tracts of 200 specimens of wild rock doves from Al-Diwaniya area found no Hadjelia specimens. The probable reason for this was he paid no attention to search under the lining of the gizzard of his examined birds.

Macroscopic examination showed that the infected gizzards were distorted. This is rather in accordance, partly, with Appleby et al. (1995) and Razmi et al. (2007) who noticed severe disease, enlargement, distortion, and necrosis of the infected gizzards of C. livia.

The present results on the distribution of Hadjelia truncata among columbid birds suggests that this parasite is more frequently infect members of Columba spp. compared with Streptopelia spp. However, the small sample size of the present study does not allow withdrawing a firm conclusion from this result.

In regard to the intermediate host/s of this nematode, it is known that members of the family Columbidae eat, sometimes, small insects (Allouse, 1961). This may be correlated directly to the fact that the larval beetles act as intermediate hosts (Anderson, 2000; Esmaeil, 2004). However, more work is needed to reveal the specific identity of the local intermediate host/s in the Iraqi environments.
H. W. Shubber

LITERATURE CITED


Esmail, G. M. 2004 Role played by some arthropods in transmission of some parasitic diseases to birds in Assiut Governorate. Dept. of Parasitology, Faculty of Medicine, Assiut University. Ph.D. Thesis.


Distribution of *Hadjelia Truncata* Creplin


Fig. 1: The anterior extremity of *H. truncata*.

Fig. 2: The posterior extremity of male *H. truncata*.
Distribution of *Hadjelia Truncata* Creplin

Fig. 3: The posterior extremity of female *H. truncata*
انتشار الدودة الخيطية بين أفراد العائلة الحمامية Hadjelia truncata

في الديوانية وسط العراق

حبيب وسيل كاظم شتر
كلية العلوم/ جامعة القادسية

الخلاصة

تم جمع 28 نموذجا من الطيور من المناطق الخيطية بمدينة الديوانية بهدف التعرف على مدى
انتشار الدودة الخيطية بين أفراد العائلة الحمامية. بينت الدراسة ان
نسبة المئوية للإصابة بهذا النوع من الطفيليات كانت 27.67% في عينة
و70% في كل من الحمام الطواز، الطبان، الفاحظة المطورة، الفاحظة المطورة، الفاحظة المطورة، الفاحظة المطورة
ولكن، الفاحظة المطورة، الفاحظة المطورة، الفاحظة المطورة
وقد بينت الدراسة ان تسجيل هذا النوع من الدودان الخيطية من طرف الفاحظة المطورة يعتبر
تسجيل مضيف جديد.