Record birds *Corvus corone* as new host for the cestoda *Cotugni intermedia* and *Raillietinia micracantha* in Al-Najaf Al-Ashraf; Iraq

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**Abstract:**

During the period of the present study (June - October 2008), *Corvus corone* were found infected with Cestoda *Cotugnia intermedia* and *Raillietinia micracantha* with incidence of (0.75%, 0.375%) respectively. In this study, *Corvus corone* regarded as a new host for these two cestodes.

**Introduction:**

The hooded crow, scientifically called *Corvus corone*, is considered one of the most common birds in the world. It settles in Iraq and south western Iran (Al-lus, 1962). It is a common bird that nests on trees and sometimes in the holes of palm trunks. It feeds on garbage and refuse around the towns, and also on disabled birds and eggs. The hooded crow also exists in large numbers in the Iraqi valleys. The hooded crow does not live in groups. The farmers dread it because it's a thief. Many farmers complained that it had stolen soap bars, small furniture items, and clothes from their living places and huts (Abu Alhub, 1994). The most areas of the body that are open to be infected with parasitical worms is the alimentary canal because of entering contaminated in to the infective stages or swallowing animal tissue for intermediate hosts affected by parasitical worms or their infective stages (Ehrenford, 1970). In spite of the importance of birds in the biological control through their feeding on some harmful creatures like insects, some of the hooded crows transfer many of the pathogens like viruses especially those causing birds flu, bacteria and parasites to birds and other domestic animals and fishes when contacting (Shubbar, 2006). We can find some of the hooded crow, individuals with sparrows, crows (jackdaws) and pigeons near the silos and feed plants or troughs (Noor El Deen 1979) recorded (Mustafa 1984). Genus: *Cotugina intermedia*, and Genus: *Raillietinia micracantha* in the domestic pigeons of Iraq.

The undomestic birds are important in getting and spreading new infections owing to their emigration and contacting different environmental circumstances types of intermediate or sacculation phases on plants or by exposing to worms with direct life circles (Kenned et al., 1988). It also has a role in transferring diseases and parasites to domestic birds and humans ( Mizher, 2002). The parasites of Iraqi did not get sufficient amount of care. Some random studies have been done in that regard, most of which were about domestic and marine birds represented by the study of (Al-Awady, 1997) and (Mizher, 2002). So this study came to shed lights on the intestinal parasites that exist in wild birds in the holy city of Najaf.

**Materials and methods:**

During the period (June 2008 - October 2008), forty hooded crows have been tested. They been caught hunting mesh from around the rural areas of Najaf. They were classified according to (Al-lus 1962). These birds were brought alive into the lab. And then anatomized by opening the abdomen and chest after removing the feathers. Then the interiors were taken out and put in a warm water to loosen up. After that, the alimentary canal was sectioned into the pharynx, the esophagus, stomach, the gizzard, the small intestine, the large intestine and the appendices. The liver, the
kidneys, the lungs, the cysts and the gonads were also secluded separately. After opening these parts, each was put in a particular (special) Bitridish and all were cleaned in water. Then, they were examined under microscope to isolate the parasitic worms, the tape worms were isolated after being washed by showering them several times to remove the stuck materials of the hosts alimentary canal.

After that, they were fixed with alcohol 70% and dyed with smichons acid carmine as explained Garcia and Ash (1970) as follows:

To remove the pigment from the outer parts and keeping them in the internal ones, the following procedures were taken:

1- the worms were put in diluted tincture solution composed of some drops of basic tincture solution of 70% alcohol for 12-24 hours to get good results.

2-the samples were put in alcohol 70% for 5 minute.

3- the samples were put in a diluted solution of acid alcohol composed of 2-4 drops of concentrated hydrolic acid in (100) ml of ethylic alcohol 70% concentrated to remove the tincture or pigment from the outer parts and keeping them in the internal parts and that takes 5 minutes.

4-the samples then were put in 70% alcohol with (1-2) drops of concentrated solution of Naco3 for five minutes for fifteen minutes to equilibrate the acid.

5- The samples were put then in inclining concentrations of alcohol (70%, 80%,90%,100%) for five minutes for each concentration.

6- The samples were put in zylol for 10 minutes.

7-The samples were carried, put in kinda balm, and aslip cover was put on them.

Then they were washed and fixed with 70% alcohol and set according to the way explained by (Abdullah, 1988) by putting them in pure Glycirin for few hours, then dyed with semichons acid carmine.

8- Depending on (Yomaguti, 1959) the parasitic worms were diagnosed and affirmed by Dr. sbeih Hleil Al Mayah

**Results and Discussion**

During the mentioned period of time, 40 hooded crows (Corvus corone) were examined.

Its a resident bird belongs to Passeriformes family. During the test, two kinds of tape worms were found; these are: Cotugina intermedia, (Johri, 1934) and Raillietina micrancantha. Table (1) explains the rates and severity of infection for each worms above. The tape worm R. micrancantha belongs to the family Davaineidae. This worm found largely in the intestines of hooded crow. The size of segment in that worm is almost the same, the length of the worm is about (115-175) mm, the width is (80)mm, while diameter of hooded is (185-170) micrometer. The suckers are provided with two rows of hooks. The diameter of rostelum reaches (114-125) micrometer carrying seminal vesicles having eggs container. Each one has (4-7) eggs, each one thickness is (32-33) micrometer. The description of this type that has been recorded is similar to that kind that (Fuhrmann, 1998) did the similarity is in the of body segment in both kinds. In the first type that we got is (115-175)mm, while in the type that Fuhrmann found, it is (100-180) mm. The suckers in both types are provided with five rows of hooks each row carries (120-200) hooks. The similarity is also in the number of testicles and also in the number of eggs in the container and its different from the type that (Mulviya, 1971) which is R. echinobothrida worm that also called nodule tape worm for poultry whose length is 25 cm, and some rows of hooks (15.8) instead of 2. The difference is also in the number of hooks which is (200-235) hooks and also in the number of testicles which is (20-30) tesceles. The eggs
container in this type holds one egg only. The similar feature in this type with the
other types is the position of genital pores. They are often bilateral or random
alternative lying usually in the center or near the rear of the edge of the segment.
The second type that was secluded in the study was cotugnia intermedia that belongs
to Davainedae family. The body of this worm is
Characterized by the fact its beginning consists of small segment then they go larger as we go to the end of the worm where the size is medium which is 49mm and the
width is 30mm it has alymphatic restelum having two circles of hammer-like hooks of
(0.011-0.016) mm length. there are also spikes on the edges of suckers lined with
several circles and sometimes there is none. the genital pores lie in the front half of
the edge of segment.
The sporngum cyst passes longitudinally and abdominally to the fecal vessels. It is
(0.17-2.5) mm long and some of the seminal canals are straight and others are twisted.
The number of testicles comes to (60-92) and in some segments they are embedded in
two distinctive groups, while in other segments they appear as a single cross tape
extending between the two ends of the segment. Its often parall along to the fecal
canal. the diameter of the egg is (61-81) micrometer.
The type cotugnia intermedia recorded in our current study is similar to that one
described in (shind, 1969) and (mustafa, 1984) in lengths and measures of segments,
heads suckers and position of genital pores in the upper angle of the lateral edge of
the segment, with some slight unnoticeable differences in lengths. there is also
asimilarity in number of testicles (60-92) organized into two groups, and the number
and order of rostellium) hooks.
This type differs, on the other hand, from the one described by (meggit, 1924)
which is cotognia coneata in having the testicles as a single connected tape of the same
segment.
The current type also resembles in measures the one described by (fuhrmann) which
is C.polycanth. The length of the sporngum cyst in the last type is 0.166mm and
passes longitudely and abdominally in relation to the fecal vessels, and the testicles
are in two groups enumerated as 86. The current type C. intermedia resembles the
one described by (al alusy 1985) isolated from the wood pigeon (ringdove).

Table (1) illustrates percentages and severity of infections for the recorded worms.

<table>
<thead>
<tr>
<th>Type of tape worm</th>
<th>Percentage of infected birds</th>
<th>Total number of parasites in the infected birds</th>
<th>Number of birds infected</th>
<th>Number of birds examined</th>
<th>Average of Incidence of infection in the infected birds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotugnia intermedia</td>
<td>0.75%</td>
<td>65</td>
<td>30</td>
<td>40</td>
<td>2.16</td>
</tr>
<tr>
<td>Raillietina micracanth</td>
<td>0.375%</td>
<td>19</td>
<td>15</td>
<td>40</td>
<td>1.26</td>
</tr>
</tbody>
</table>
Picture-1: Tape worm *Cotugina intermedia*
A- egg  B- head  C- adult segment  D- mature segment
draw by luseda camera by reseacher
Picture -2: Tape worm Raillietina macrantha
A-head  B- mature segment  C- adult segment
draw by luseda camera by resarcher

References:


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الخلاصة

تم في الدراسة الحالية وخلال الفترة المحسورة بين شهر حزيران 2008 ولغاية شهر تشرين الأول 2008 فحص 40 طير من طائر الغراب الايقع في منطقة النجف الاشرف. وجد ان 30 طيراً Corvus corone منهما مصابة بالديدان الشريطية Raillietina micracantha بنسبة (0.75%) 30% (Cotugnia intermedia) وقد تم وصف هذه الديدان التي تسجل لأول مرة في العراق في طيور الغراب الايقع Corvus corone.