

Record birds *Corvus corone* as new host for the cestoda *Cotugnia intermedia* and *Raillietina 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 *Raillietina 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 on 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 into 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: *Cotugnia intermedia*, and Genus: *Raillietina 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 were caught using a 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 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 time 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 explaine 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 aresident bird belongs to Passeriformes family . During the test , two kinds of tape worms were found ; these are : *Cotugina intermedia*, (Johri, 1934) and *Raillietina micracantha*. Table (1) explains the rates and severity of infection for each worms above. The tape worm *R. micracantha* belongs to the family Davaineidae. This worm found largely in the intestines of hooded ceow . 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 suckersin both types are provided with five rows of hooks each row carries (120-200) hooks. The similarty 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) tescles. 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 parallel along to the fecal canal . the diameter of the egg is (61-81) micrometer.

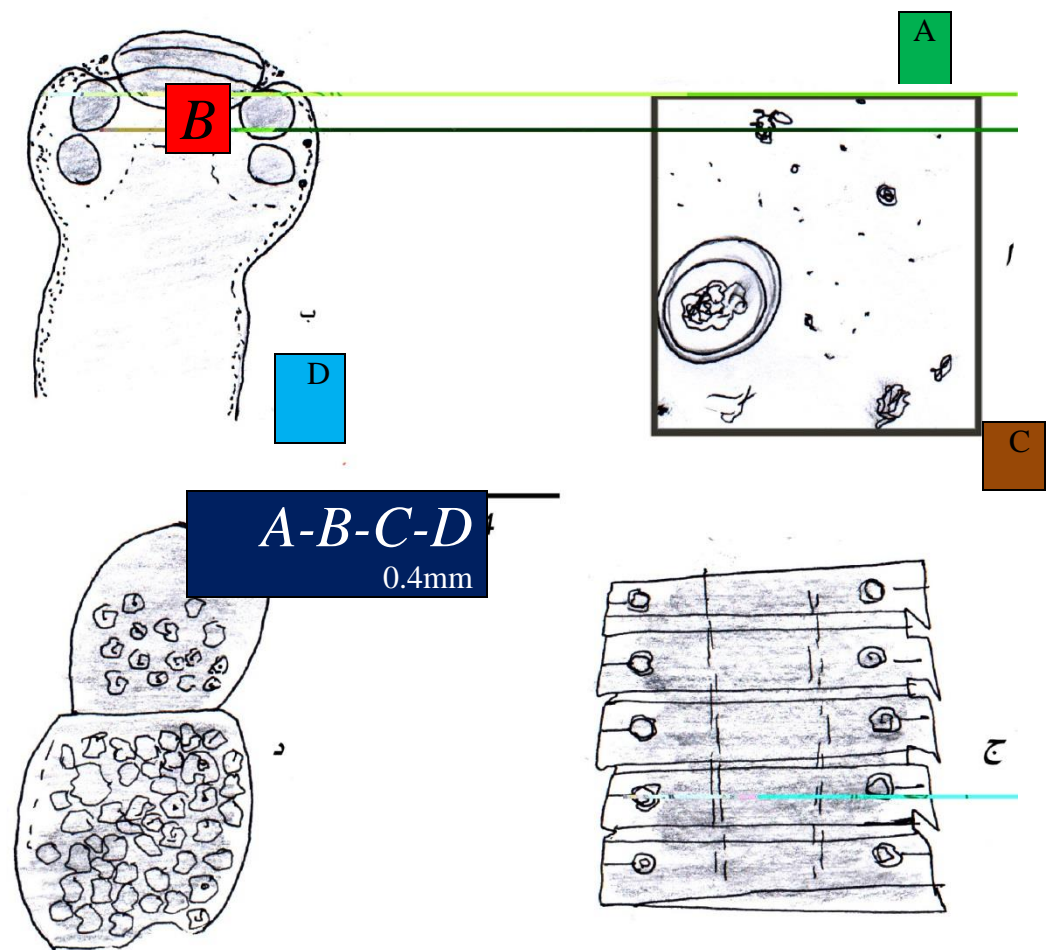
The type *cotugnia intermedia* recorded in our current study is similar to that one described in (Shind, 1969) and (Mustafa,1984) in lengths and measures of segments, heads suckers and position of genital pores in the upper angle of the lateral edge of the segment, with some slight unnoticeable differences in lengths . there is also a similarity in number of testicles (60-92) organized into two groups , and the number and order of rostellum hooks.

This type differs , on the other hand , from the one described by (Meggit, 1924) which is *cotugnia coneata* in having the testicles as a single connected tape of the same segment.

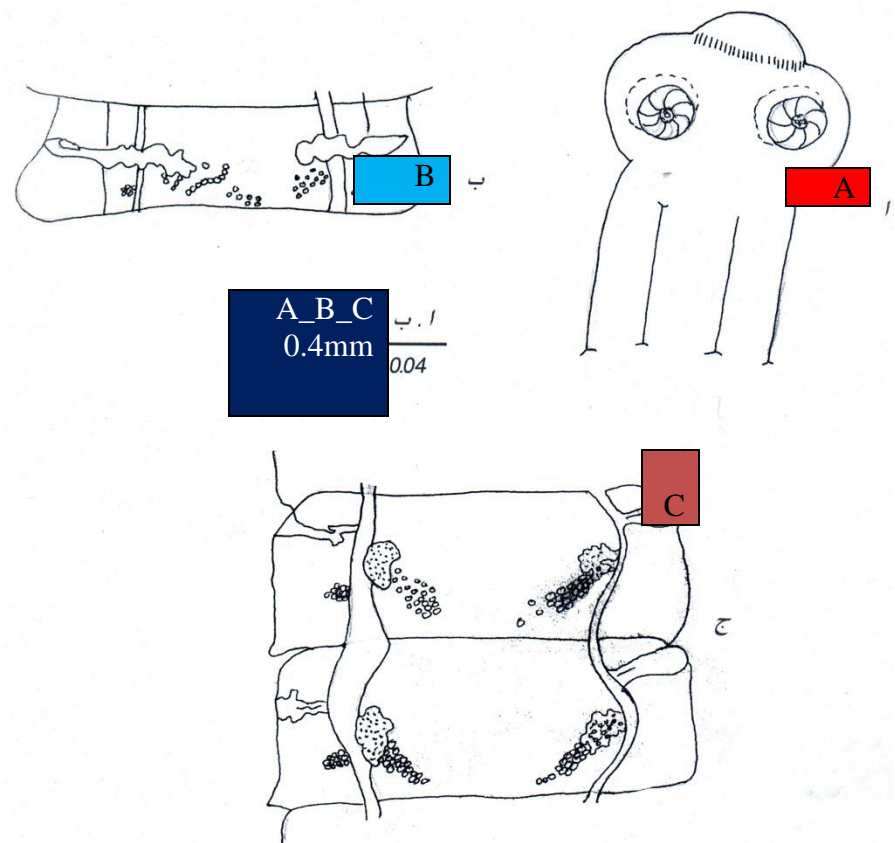
The current type also resembles in measures the one described by (Fuhrmann) which is *C.polycanth*. The length of the sporngum cyst in the last type is 0.166mm and passes longitudely and abdominally in relation to the fecal vessels, and the testicles are in two groups enumerated as 86 . The current type *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.

Type of tape worm	Percentage of infected birds	Total number of parasites in the infected birds	Number of birds infected	Number of birds examined	Average of Incidence of infection in the infected birds
<i>Cotugnia intermedia</i>	0.75%	65	30	40	2.16
<i>Raillietina micracanth</i>	0.375%	19	15	40	1.26



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:

Al-Awadi,H.M.H.(1997) Some ecological aspects of the parasitic faunae of fishes and aquactic birds in Bahr Al-Najaf depression
Iraq.Ph.Dthesis;Coll.Educ.(IbinAlHaitham,univBagdad:71pp

Al Alusy , Juheina Abdul Alkarim Abdul Hamid (1985) , A sample of parasitical worms of the alimentary canal of laurus blak headed columba palmbus and gull ridibundus wood pigeon in Beiji and Baghdadicity , thesis of master , collage of sciences , university of Baghdad p: 124.

Al lus , Bashir (1962) Iraqi Birds , part 3 , Passeriformes , Al Rabita publishers. Baghdad p: 289.

Al muyah, Sbeih Hlil Jabir (1990) worms of some Birds and indications about the Ich of swimmers in Basrah. Thesis for master , collage of education , Basrah university. P: 1037-Abdullah , Basim Hashim (1988) , a study on the parasites of some marine birds in Basrah , master thesis , collage of education , Basrah university p: 118.

Abu Alhub, Jalil Karim (1994). The harmful birds and precaution against them. Darel Shoon Al thaqafya , Baghdad , Iraq No.136 p: 391

Ehrenford F.A.(1970). Avian immunity to metazoan parasites .Immunity to parasites Animals p:2:399-420.

Garcia; L.S. and Ash; L.R. (1979). Diagnostic parasitology clinical laboratory edition the C.V mosby company st. Louis; 174pp. manuell. 2nd

Fuhrmann; O.(1908). Die hymenolepis artender vogel. Zentrabl Bakteriell. Infektionskr. Hyg. Abt. I: orig. Reihe A; 41:352-358 cited from Parasitenkunde. czaplinski; 1956. Acta. parasit. pol.; 4:175-373 .

Fuhrmann; O.(1920) . ind. jour. vet. sci.; 31:108-120

Kenned, C.R.; Bush; A.o. and Abo; j. Mm (1986) Patterns in helminth communities : why are birds and fish different. 3 parasitology; 93 :205-215

Malviya, H.C. and Dutt; S.C. (1971) Morphology and life history of Raillietina singhi N.sp.(cestoda; Davaineidae) Ind. J. of Helminthol. 8- Meggitt; F.J. (1924) On a collection of Burmese cestodes parasitology xv 111; pp. 230-237 .

Mizher , Alia Husein (2002) . a diagnostic histological and pathological study for the worms parasitizing on the alimentary canal of some marine birds in the valley of Najaf sea , master thesis , collage of education university of kufa . p:80.

Mustafa, Fatin Abdul Jabbar (1984) an epidemic study for some tape worms infecting the digestive system of pigeons in Basrah , master thesis , collage of sciences , Basrah university. P: 113.

Sabe, Kadhim Muhammed (2006) a diagnostic and pathological study of the tape worms parasitizing on the alimentary canal of three types of pigeons in Najaf , master thesis , collage of Arts , kufa university p:59.

- Shind.G.B. (1969)**.Known and two new species of genus Raillietina (Diamare;1893)from the columbi formes birds in maharashtra; India Rivista DI parasitologia 30 (1)pp 39-44.
- Shubbar, Habib Wasil (2006)** worms parasitizing on the alimentary canal of Netta Rufina and Anus crecca, master thesis , collage of education university of Kadisya , p: 120
- Yamaguti;S. (1959)** .Systema helminthu , Vol.II. The cestodes of vertebrates, Intersci, Publ; New york:1261pp.

الخلاصة

تم في الدراسة الحالية وخلال الفترة المحصورة بين شهر حزيران 2008 ولغاية شهر تشرين الاول 2008 فحص 40 طير من طائر الغراب الابقع *Corvus corone* في منطقة النجف الاشرف. وجد ان 30 طيراً منها مصابة بالديدان الشريطية *Cotugnia intermedia* (0.75 %) و *Raillietina micracantha* بنسبة (0.375%) وقد تم وصف هذه الديدان التي تسجل لأول مرة في العراق في طيور الغراب الابقع *Corvus corone*.